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STUDY FOR AN EASTERN SCHOOL TRACK FACILITY

DRAFT

D C P O OFFICE OF PROGRAMMING 6..4..87

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This is a discussion draft of the feasibility study for a new school track facility in Boston. The principal purpose of the facility is to provide a high quality setting for high school track competition and practice in Massachusetts. Since high school track use is part time, the project includes facilities to accommodate community recreational activities and to make full use of the track facility. The project has had several past incarnations, each on a different site, the site examined in this study is parcel 17X, on the Southwest Corridor in Roxbury. The site is owned and proposed by Northeastern University for the school track facility. Northeastern has successfully managed athletic facilities for community use in the past, and may be able to manage the track for joint use by the MSTCA, the university, community and the public.

This report identifies the existing conditions on the site and for the program, generates and examines program and concept alternatives, and identifies four schematic design alternatives. These alternatives vary in size, cost, and to some degree in program. The track floor/field house is the same in all four alternatives. Variations occur in the amount of additional recreational space, programmatic support space, and in whether or not parking is included, the preliminary cost estimate for the smallest of the alternatives, Option A, is $32,167,000, total project cost; for the largest, Option B with add alternates, it is $63,178,000.

In all cases the small size of the site requires a multi-level facility, which is unusual for field houses, and which increases project cost. The site offers the opportunity to provide needed community recreation facilities for this part of the city, to mutually enhance the impact of the new Ruggles Street Orange Line Station on the potential for neighborhood improvement, and to address the long-standing need for a competition track facility.

The next steps are to review these alternatives, refine the program as necessary, select the preferred solution, and develop a method of implementation.

Existing Conditions

STUDY FOR AN EASTERN SCHOOL TRACK FACILITY

I

A Introduction

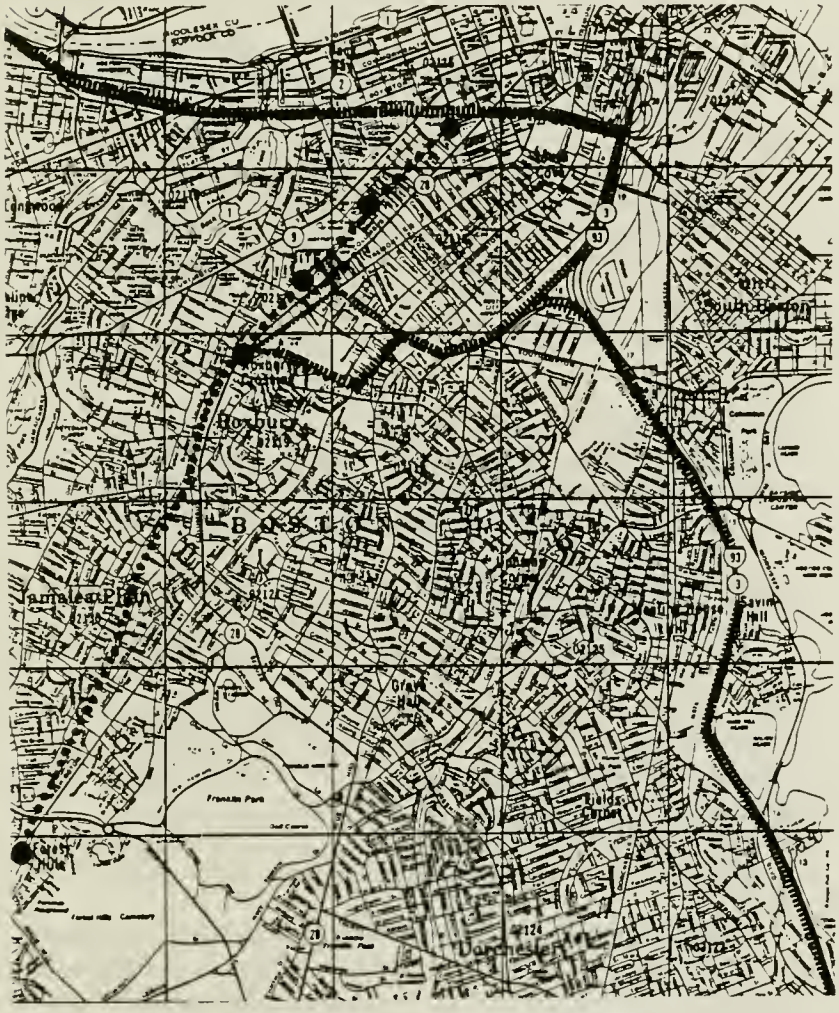
B. Site, Context, Geotechnical

C. Program

D C P O OFFICE OF PROGRAMMING 6..4..87

A. INTRODUCTION

The site for the proposed track facility is located on Columbus Avenue across the Southwest Corridor from Northeastern University. This location makes it easily accessible by public transportation to much of the Boston area population. The approximate total area of the site is 84,000 s.f. and the approximate area required solely for a track and infield is 73,960 s.f. Following is a description of the existing conditions on site, the existing track and community recreational services, and conditions around the site.



B. SITE

The site consists of 84,000 s.f. of relatively flat land currently used for parking. It is bounded by Columbus Ave., a new Northeastern University parking garage, the Southwest Corridor, and an undeveloped parcel which belongs to the University. Utilities are available in Columbus Ave. to serve site development. The attached material from Boston Survey Consultants outlines the geotechnical characteristics of the site.

The site is at an edge in the city between residential and institutional uses, in an area where significant redevelopment is under consideration, and where several years of community participation have guided the development of the new orange line corridor. Much of the surrounding land is either vacant or involved in the various redevelopment proposals identified below.

- Parcel 18 is a 245,000 s.f. parcel adjacent to the Ruggles Street Station. It is bounded by Tremont St. on the south, Ruggles St. on the west, the station on the north, and Melnea Cass Blvd. on the east. The city, the Common wealth and the Parcel 18 Task Force have proposed a mixed-use development for this site. It is intended that this parcel be intensively developed and that it act as the central orienting element for the larger area. Current thinking is that it will contain underground a parking, retail space at the first level, office space, housing and a cultural/performing arts center.

- The parcel bound by the new parking garage egress road, Columbus Ave., and the Ruggles St. Station is owned by Northeastern University. Northeastern proposes to develop it into a research facility at a later date.

- Directly across from the track site, on Columbus Ave. are existing 3-4 story buildings which will tentatively be renovated for housing and commercial use.

- Parcel 16 on the opposite side of the Carter Playground on Columbus Ave. is proposed to be a two phased project. The northern half of the block is proposed to be developed into 145 units of housing. A street will split this large super block into two blocks. Phase II suggests the portion to the south of the road as town houses, offices, and parking.

The area is well served by both public transit and major roads. Pedestrian links which now appear significant are noted on the accompanying diagrams, however as development plans for the area are finalized these can be improved and formalized. There is a 20' MBTA landscape easement on the site along Columbus Ave. The accompanying site plan indicates major site features. Zoning is M-1, with a 35' height limit, and a 15' setback from the garage is

necessary to provide access and to alleviate the need to provide sprinklers for the garage. Views from the site are not extraordinary, however the various development proposals will undoubtedly substantially change the urban design context of the area. The three principal areas of focus are toward Parcel 18, whose characteristics are not finalized, toward the Columbus Ave. street corridor - the 'front door' of the site, and toward Northeastern University.

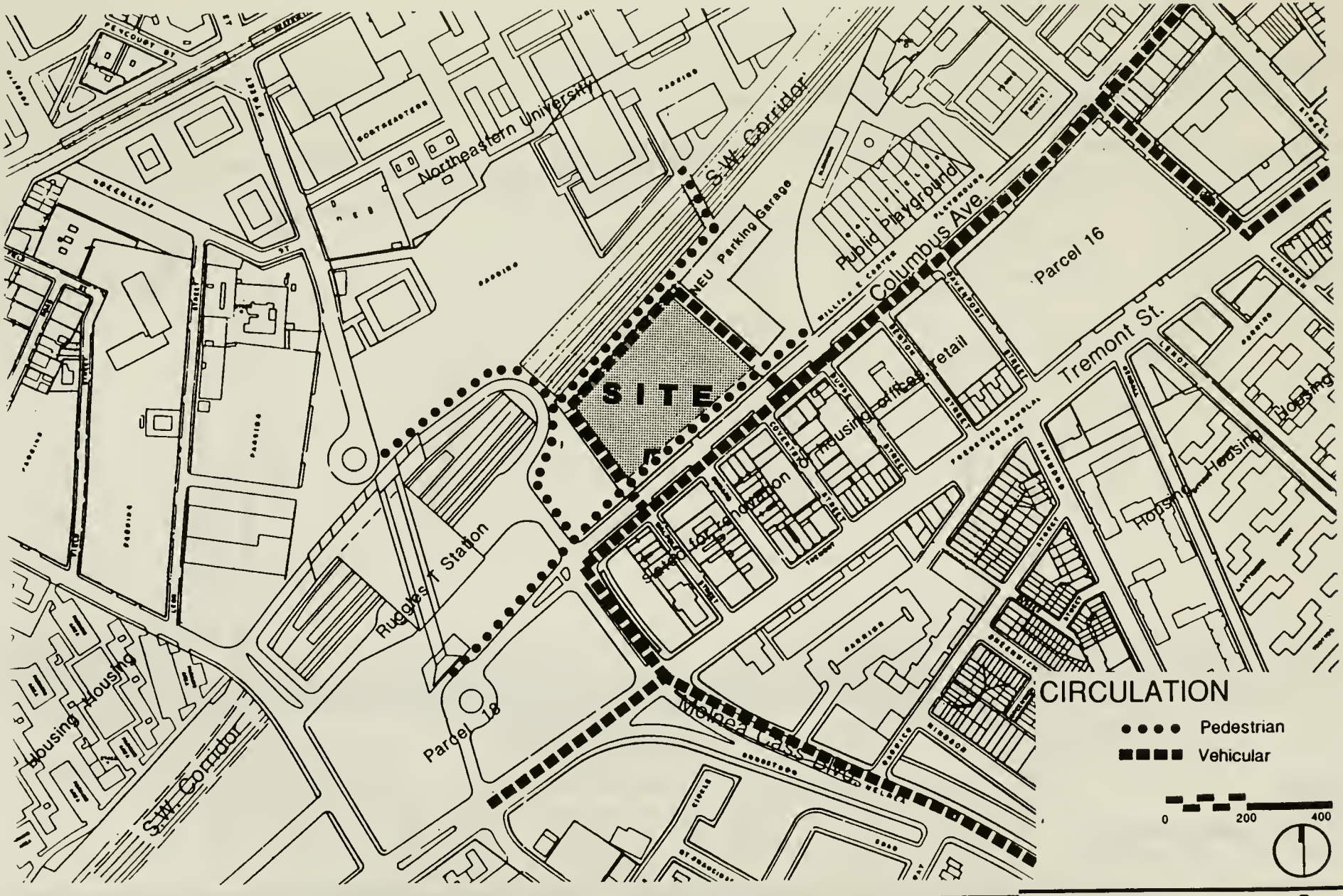
The Columbus Ave. corridor, although it may see significant investment, seems likely to remain a mid-rise commercial and residential area. The heights and massing of existing buildings establish a varied cornice line which can easily accommodate the track proposal alternatives as later discussed. It will be important to provide the track facility with an active face to Columbus Ave., and with an expressive facade which continues the character of the corridor.

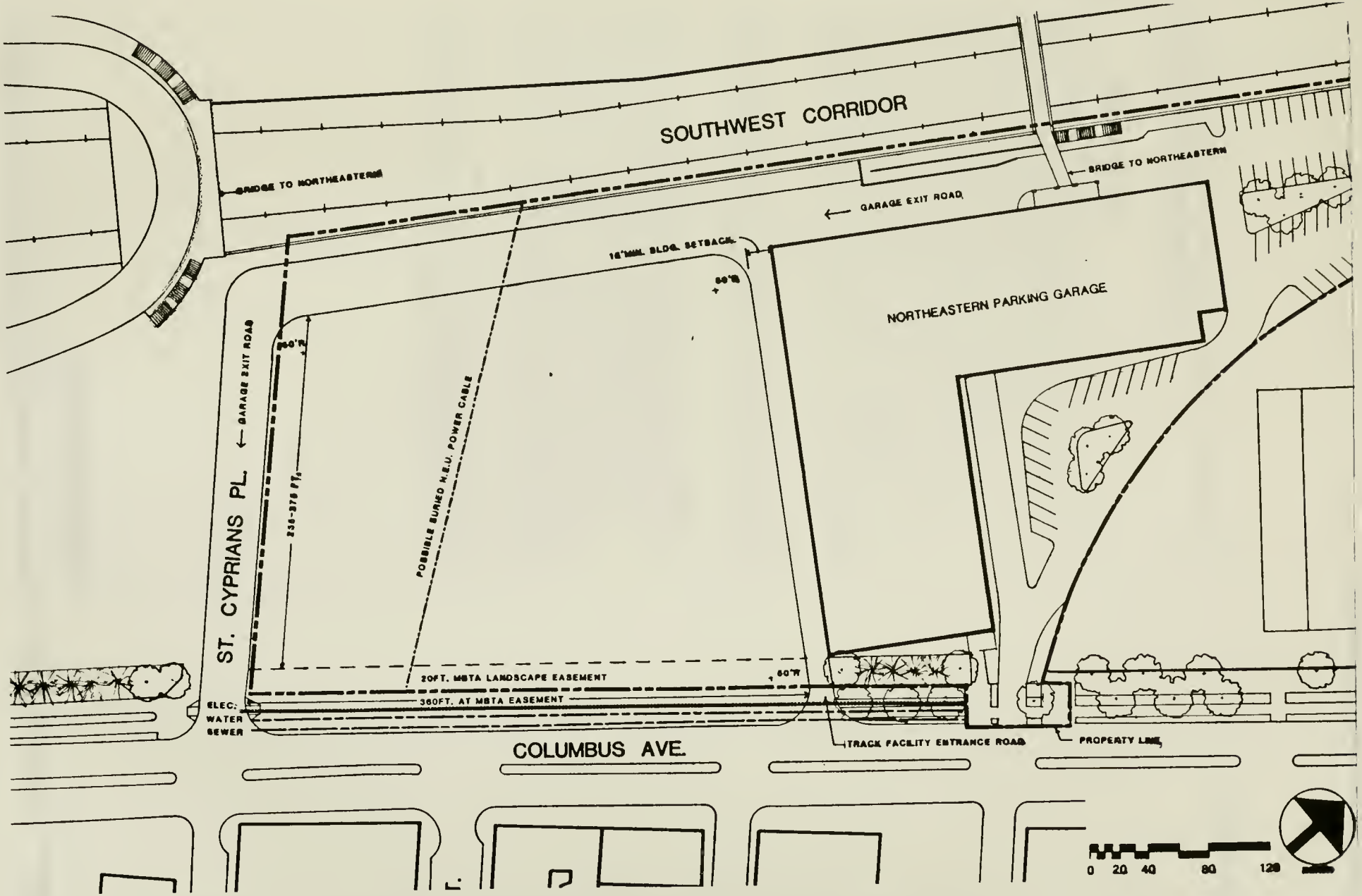
Northeastern University has recently completed a master plan which forms a basis, together with the existing campus, for discussion of the University's relationship with this site.

The new Ruggles St. Station is seen as a "public gateway" to the campus. A pedestrian mall is proposed in front of the Ruggles St. Station which will extend across Forsyth St. The intent of the proposed campus master plan (Sasaki Associates 1987) is to create pleasant pedestrian spaces through the use of landscape materials, enhanced paving and seating which will link the existing campus with proposed new buildings. Parking facilities are planned to be located on the campus edges, such as the new 935-car garage adjacent to the site, in order to minimize the need for vehicles to penetrate the campus core.

The architectural style within the core campus is a design of white-glazed brick and four to five-story curtain walls which are accentuated in vertical dimension. This style has been consistently carried out on campus with the exception of some recently constructed campus buildings and those buildings acquired rather than built by Northeastern. However, the majority of buildings on campus fall within the 4-6 story range creating a consistency within the campus environment.

The master plan also calls for development of an approximately 57,000 n.s.f. program of indoor recreational space for Northeastern's use. This program has been incorporated in alternative B as later discussed.


Northeastern University
S.W. Corridor
NEU Parking Garage
Public Playground
Columbus Ave.
Parcel 16
SITE
Tremont St.
Retail
Housing
Housing
Housing
Housing
Housing
Ruggles Station
Parcel 18
Melnea Cass Blvd.
S.W. Corridor
CIRCULATION
Pedestrian
Vehicular
0
200
400



Existing Conditions

The following material is excerpted from the site assessment report prepareby Boston Survey Consultants.

1.0 **INTRODUCTION**

BSC Engineering was contracted by the Division of Capital Planning and Operations to conduct a site assessment which would investigate foundation options, structural/design and soils investigations relative to the presence of oil or hazardous materials. The site is located on the north corner of the intersection of Columbus Avenue and St. Cyprians Place in Boston, Massachusetts. The site consists of a parking area which is currently owned by Northeastern University and is known as Parcel 17X. The field investigation involved a visual inspection, excavating eight (8) test pits at the site, and chemical analysis of groundwater and soil samples removed from the test pits.

BSC subcontracted Madden Asphalt Corp. of Allston MA to perform the test pits at the proposed site. Madden Asphalt Corp. completed eight (8) test pits at the site (Appendix 1).

Four (4) ground water and four (4) soil samples were collected from the different test pits and analyzed for ABNs by Clean Harbors and Metals, Volatile Organics, and PCBs/Pesticides by Revet Laboratories. The samples were sent to two laboratories so that the test results would be available in a timely fashion. At the time the samples were taken neither lab could individually process all of the samples in the required time, consequently both labs were utilized (Appendix 2).

BSC has also engaged the services of Geotechnical Engineers, Inc., from Winchester MA and Veitas and Veitas, from Braintree, MA for geotechnical and structural engineering tasks respectively.

The BSC Group

excerpt from the Boston Survey Consultants report

2.0 Assumptions

Research of the D.E.Q.E. and Boston Fire Department files on oil and hazardous waste revealed no evidence of oil or hazardous waste releases having occurred at the Site. A test pit program was done at the site on May 3, 1987 to verify the research that was done on the site. The test pit program involved the excavation of eight (8) test pits and collection of soil and ground water samples from each test pit (Figure 2). The samples were tested for ABNs, VOAs, Metals, and PCBs/Pesticides; these test results are summarized in Table 2.0.

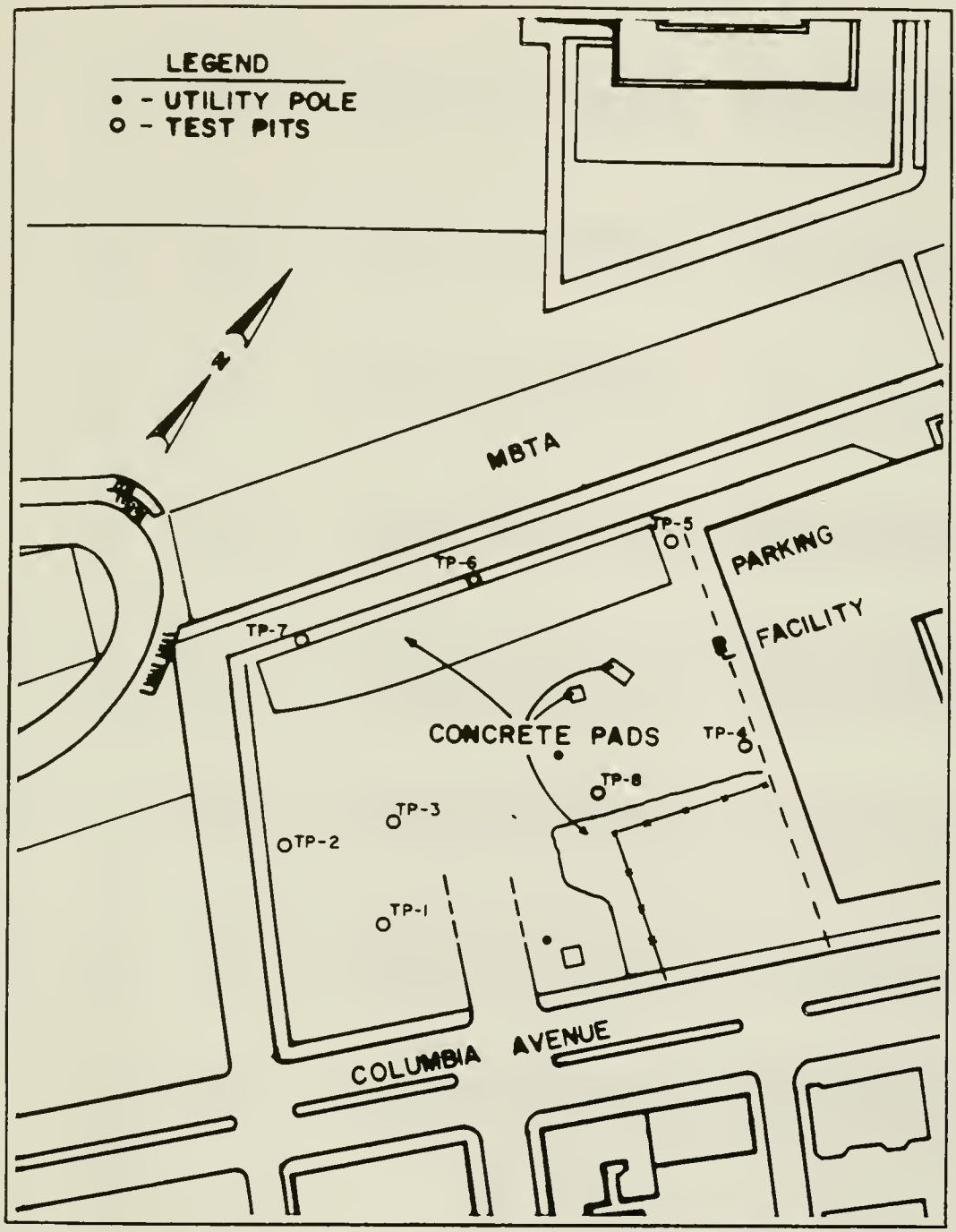
The majority of the Site consists of gravel with some concrete and asphalt areas. The Site also contains some old concrete pads and some buried concrete was observed in the test pits which may represent old foundations. The drainage at the site is controlled by a series of storm drains.

The laboratory tests indicate the presence of ABNs and PCBs. The ABNs at the reported concentrations could be left at the site provided they were isolated. However, all of the options proposed for this site involve the removal of the fill at the site. The total PCB concentration for any of the samples was below 50 ppm. Therefore, under 310 CMR 30.370, and 40 CFR 761.60 the fill material does not need to be disposed at a chemical waste landfill. The removal of the fill is dictated by its nature with respect to its in ability to support the basement floors for all of the proposed options. Once the fill is removed, due to the concentration of ABNs it is classified as containing hazardous material.

Subsurface conditions at the site were estimated based on boring and construction data that were made available to BSC at the time of the study. The data included borings that were previously performed in areas adjacent to the project site, and some on-site borings. Data was also obtained from the Northeastern Parking Garage and MBTA drawings and material related to the design and construction of the tracks west of the site. Limited laboratory soil test data were also available.

Test pits were performed at the site on May 3, 1987 primarily for the purpose of an environmental assessment. However, the test pits were also logged and evaluated for purposes of developing foundation recommendations.

No new borings were performed during this phase of the project, although a boring program is planned to be performed shortly. Thus the recommendations



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TEST PIT LOCATIONS
Columbia Avenue
Roxbury, Massachusetts

Job No. 2-1721.00 Fig 2

Horizontal Scale in Feet 1":100'

excerpt from the Boston Survey Consultants report

TABLE 2.0
SUMMARY OF LABORATORY TEST RESULTS

	TEST PIT NUMBER							
	1	2	3	4	5	6	7	8
SAMPLE TYPE	Water	Soil	Soil	Water	Water	Soil	Soil	Water
PARAMETER (Concentrations are in parts per million)								
PCB/Pesticides								
4,4'-DDT	0.00[1]	0.00	0.00	0.00	0.00	0.00	0.022	0.00
Aroclor-1242	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00
Aroclor-1254	0.00	0.00	0.91	0.00	0.00	0.00	0.043	0.00
7Aroclor-1260	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00
Organics								
Toluene	0.00	0.00	0.00	0.00	0.00	0.00	0.011	0.00
ABN Compounds								
Acenaphthene	0.00	2.90	0.00	0.00	0.00	0.00	0.00	0.00
Acenaphthylene	0.00	B.D.L.[2]	0.00	0.00	0.00	0.00	0.00	0.00
Anthracene	0.00	6.10	2.00	0.00	0.00	0.00	0.00	0.00
Benzo(a)Anthracene	0.013	10.00	5.00	0.00	0.00	0.00	0.68	0.011
Benzo(b)Fluoranthene	0.011	16.00	8.70	0.00	B.D.L.	0.00	0.74	0.020
Benzo(k)Fluoranthene	B.D.L.	B.D.L.	B.D.L.	0.00	B.D.L.	0.00	B.D.L.	B.D.L.
Benzo(g,h,i)Perylene	0.00	6.10	3.30	0.00	B.D.L.	0.00	0.58	B.D.L.
Benzo(a)Pyrene	B.D.L.	9.60	5.20	0.00	B.D.L.	0.00	0.64	0.012
Bis(2-ethylhexyl)Phthalate	0.018	0.00	0.00	0.00	0.012	0.00	0.00	B.D.L.
Chrysene	0.015	9.40	5.00	0.00	B.D.L.	0.00	0.77	0.011
Dibenzofuren	0.00	2.40	0.00	0.00	0.00	0.00	0.00	0.00
Fluoranthene	0.011	18.00	9.00	0.00	0.01	0.00	1.10	0.021
Fluorene	0.00	2.70	B.D.L.	0.00	0.00	0.00	0.00	0.00
Indeno(1,2,3-cd)Pyrene	0.00	5.60	3.00	0.00	0.00	0.00	0.48	0.00
2-Methylnaphthalene	0.00	B.D.L.	0.00	0.00	0.00	0.00	0.00	0.00
Naphthalene	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00
Phenanthrene	0.00	24.00	9.50	0.00	0.00	0.00	0.90	B.D.L.
Pyrene	0.023	20.00	10.00	0.00	B.D.L.	0.00	1.40	0.021
Metals								
Antimony	0.004	0.42	0.36	0.004	0.004	0.1	0.33	0.004
Arsenic	0.003	8.27	9.01	0.003	0.003	6.49	9.44	0.003
Beryllium	0.002	0.4	0.3	0.002	0.002	0.44	0.4	0.002
Cadmium	0.005	1.2	1.5	0.005	0.005	1.3	1.7	0.005
Chromium	0.02	15.0	14.2	0.02	0.02	19.8	14.8	0.02
Copper	0.02	34.8	36.3	0.02	0.02	16.4	24.6	0.02
Lead	0.005	134.0	232.0	0.005	0.005	13.1	156.0	0.005
Mercury	0.0006	0.51	0.37	0.0007	0.0004	0.02	0.22	0.0007
Nickel	0.03	11.7	23.8	0.03	0.03	13.8	9.88	0.03
Selenium	0.037	0.19	0.2	0.003	0.002	0.07	0.24	0.002
Silver	0.007	0.3	0.5	0.007	0.007	0.2	0.4	0.007
Thallium	0.02	0.4	0.6	0.005	0.005	0.2	0.3	0.005
Zinc	0.111	113.0	135.0	0.01	0.01	40.4	400.0	0.084

[1] 0.00 indicates a compound that was not detected at the stated sensitivity (detection limit).
[2] Below Detection Limit.

presented for foundation design are not based on complete data, and these recommendations may change substantially depending on the results of future subsurface exploration and laboratory testing.

The subsurface conditions that were estimated and assumed in this phase of the study are listed below. All elevations below are referenced to the National Geodetic Vertical Datum (NGVD).

1) Ground Surface at the site varies from approximately El. +12.5 near Columbus Avenue to approximately El. +8 near the MBTA tracks.

2) Fill from the ground surface to El. +2, at an average depth of 8 feet, to 9 feet. The fill consists of a highly variable, gravelly and silty sand with brick, wood, ash, scrap metal, tires, and concrete rubble. Zones within the fill also contain old foundations that have not been demolished.

3) Sand from approximately El. +2 to approximately El. -3.5. The sand is a dense to very dense, brown to yellow, medium to fine sand that becomes increasingly interbedded with layers of silty clay with depth. The thickness of the strata is somewhat variable and depends on the location within the site.

4) Gray Silty Clay from approximately El. -3.5 to El. -148. The clay is fairly stiff from the top of the strata at El. -3.5 to a thickness of approximately 40 feet (El. -43.5). The lower part of the clay is soft. The bottom elevation of the clay stratum is very approximate due to limited data.

5) Glacial Till at approximately El. +2 which is approximately 8 to 10 feet below the ground surface.

3.0 ALTERNATIVES

There are some alternatives available for handling the hazardous material identified at the Site. The first alternative would be to leave the material in place and isolate it from contact with people by covering the area with an impervious paved surface or floor.

The second alternative to handle the hazardous material it to remove the material to an off site disposal area. The off site disposal of the contaminated material has some options. The first is to remove the material to an asphalt plant in Rode Island.

The second possibility would be to of have the material classified as urban fill. This classification would allow the material to be used in construction projects where the material could be isolated from human contact.

The final alternative is the disposal of the hazardous material at a secure landfill which is licensed to accept such material.

4.0 PREFERRED ALTERNATIVE

HANDLING OF HAZARDOUS MATERIALS

The alternative of leaving the hazardous material in place is not the recommended alternative. This is not an effective option for this project because the foot print of the proposed structure occupies the entire site and the proposed floor slab elevations would require the removal of almost all of the fill at the Site. Additionally, the fill at the site is not capable of supporting the loads that the proposed floors would place on the fill. This inability to support the floor loads would result in unacceptable settlement of the floor slab and possible damage to the floor. The size of the structure eliminates any areas to place the contaminated material outside of the building.

The off-site disposal alternative has a number of options. The hazardous material could be taken to an asphalt plant in Rhode Island. This is not considered a viable option due to the amount of non-granular material such as concrete, wood and metal that is found in the fill at the site.

To fully explore the urban fill option, the project would have to be under construction now and then a disposal site could be located. To predict if such a site would be available in the future is not realistic. To obtain a urban fill classification would also require more expensive and extensive testing at the site. For the reasons presented above, it is the opinion of BSC Engineering that the cost of removal and disposal of the contaminated material be used for this project.

The alternative of disposal of the hazardous material at a secured landfill which is licensed to receive this type of material is the recommended alternative for the reasons stated above.

C. PROGRAM

This section identifies the present status of three potential users of the facility - high school track athletes, coaches and meet spectators; community recreation users; and Northeastern university students and staff. All three have clear need for additional indoor recreation space. The potential ways of meeting these needs are discussed in the program chapter of this report.

The initial objective of the proposed facility is to provide a place for statewide high school track competitions. Several previous proposals have been put forward, most recently, during the late 1970's, for an MDC facility in Dorchester. In defining the conditions facing high school competitors today, the Massachusetts State Track Coaches Association (MSTCA) has been the principal representative in defining program and space needs for competitors. Additionally, a survey was mailed to all eastern Massachusetts coaches of high school track teams. The survey form and analysis of responses (20% return rate) are included in an appendix to this report.

A clear picture of present conditions emerges. Massachusetts high school competitors have an active indoor track program during the fall, winter and spring. Over 300 eastern Massachusetts schools belong to the MSTCA , participating in 18 different competition leagues. The median school size of 955 students has a median participation rate of 35% in athletics. The most common track events (100% of respondents participating) are competition dash, run/relay, and shotput. High jump and long jump also have high participation rates, with fewer schools engaging in pole vault. Team sizes range from 5 to 25 per event, with many schools fielding both girls' and boys' teams. A large statewide meet attracts up to 1800 competitors. On average, teams compete in 12 meets each season. Most of these are away from home as only 18% of responding schools have indoor tracks. Practice space is also a concern - 71% now hold winter practice either on outdoor parking lots or in school corridors. Dual meets, with only 2 or 3 schools participating, are generally held at one of the existing high school tracks. League, regional, and state meets which involve more than 2 or 3 schools are held in rented facilities - often college track facilities.

The use proposed for a facility in Boston is also clear. The quality of facility and ability to accommodate the large meets are key elements in the coaches intention to hold league, regional, and state meets, as well as invitational and eastern final competitions at the facility. This use would call for a minimum of 12 weekends during the season, not including league meets. The second major function of the track would be to provide quality practice facilities. Schools in the City of Boston and in nearby suburbs would use the facility for weekday practice, between the hours of 2:30 and 7:00 pm, Monday through Friday, as well as for practice before meets. As distance from Boston increases, the demand for daily practice

time drops, though demand continues for periodic practice time before major meets.

Meet operation is a mobile art. Vans bring meet administrators and equipment to the rented site, allowing set up of registration, officiating, and other administrative activities on portable tables. Competing teams and coaches arrive by bus, spectators generally by car. Team members arrive dressed for competition, and the majority of coaches do not feel that locker/shower rooms are necessary for high school competitors. Meets are typically one or two day efforts, with teams arriving and leaving over a two-hour period at the beginning and end of the day. Many events are run continuously and simultaneously during the day, as a large number of teams are usually competing, with the result that few competition areas can be used for more than one track event. Press coverage is typically limited to newspaper coverage of major meets, and spectator attendance is highly variable, with major meets again drawing the largest numbers of spectators.

There is clearly a great deal of high school track activity taking place without a 'home base'. Further, it is clear that a home base facility for competition and practice would be actively and effectively used. Competitive track meets and practice would not, however, fully use the capacity of a field house. Weekday hours before 2:30pm and after 7:00pm, for example, would be free for other purposes. While the running tracks themselves are likely to find a large audience of recreational runners and joggers, other activities - pole vault, shotput, long jump - are not as likely to be used for casual recreation. In order to make fullest use of a proposed track facility, it is worth looking at other potential users and activities.

In a public facility, community recreation is another source of concern. In looking at the population of the area, at the location, accessibility, condition and size of the indoor recreational facilities available for community recreation, it is possible to identify a shortfall in the amount of space available, and potentially in the diversity of activities offered.

As previously discussed, the site is at the edge of a residential/ institutional seam, and is immediately adjacent to a new Orange Line station and a number of potential development parcels. Both the station location and the potential for future development suggest that a good quality public recreational facility with a variety of activities available could draw a large, but at present ill-defined, group of users. A more conservative basis for considering public need is to look at the presently available supply of public indoor recreation facilities in comparison with planning standards for supply of such space.

The proposed site is in a relatively dense part of Boston's residential area, the 1980 federal census indicates a population of about

56,000 people within a 15 minute walk from the site. The accompanying diagram indicates which parts of the city fall within this walking time. The general purpose planning standard which calls for one acre of indoor recreation space per 10,000 members of the residential population provides a basis for identifying overall public demand for community recreation space. The resulting demand is illustrated on the supply and demand summary chart for indoor recreational space.

Supply of space can be determined by identifying the facilities within the various walking distance areas, the space available and the activities offered. This is also included on the summary chart. As is evident, most of the space available is in community schools, where basketball courts are generally available during evening hours. The only 'full service' facilities are the YMCA on Huntington Ave. and the YWCA Clarendon St., which offer a full range of activities including multi-purpose rooms with classes, weight training equipment and a variety of other programs. In the community schools and other public facilities, management, maintenance, and staffing of the facilities provide major limits to retaining the quality of the space long-term, and to the variety and effectiveness of the recreational programs offered. In general, there is not a great deal of diversity in the activities available, and there is an overall shortage of space.

The third possible user of a facility at this site is Northeastern University. The University has a clear program of primarily intramural and recreational uses, which are intended to complement their existing competitive and recreational athletic facilities. With the possible exception of varsity women's basketball, the facility would serve Northeastern's needs for more recreational space for its students and staff. Principal program components would include racquetball/squash courts, multi-purpose space, weight training suites, and off-time use of the field house. The appendix contains a detailed summary of the University's proposed activity needs and scheduling, and the overall program is summarized in the program chapter. Northeastern has experience managing athletic facilities for joint university/community use, and could possibly provide training, staffing, management, and maintenance under agreement for the facility.

HIGH SCHOOL TRACK COMPETITION/PRACTICE ACTIVITIY SCHEDULE

DCP86-41STU 5 29 87

EVENT	USE	USER	NUMBER	SCHEDULE	DATES
State and regional high school track/field meets	55 M/65 yd. dash 300, 600, 1000 yd. and mile runs two mile relay 55M high hurdles long jump triple jump high jump shot put	Mens and womens teams	148 teams in 2 day meets - 100 teams at any one time - 1 to 30 partic./team - up to1800/day	Start at 8 AM with 2 1/2 hr. prep. All teams arrive during this time. 5 hr.meets	Dec. 1 to mid March - 6 Sat., 2 Sun., 1 Fri/Sat, 1 Sat/Sun., 1 Sat/Sun/ Mon., 1 Thurs.
		Spectators: student, parents, coaches	800 to 1000 per day	Come and go from 8 AM to 6 PM	
		Officials	50 - 10 of whom are women	Arrive as early as 8AM set up, leave after 5PM	
		Coaches	100 - 150/day	Arrive with respective teams	
		Mainten./Security	10/10	7 AM to 6PM	
		Tickets/Concess.	5	8 AM to 6 PM	
Boston High Schools	Practice during the week	Students with coaches	Variable	2 to 7 PM and before meets	Monday through Friday
Suburban High Schools	Practice during the week	Students with coaches	Variable	2 to 7 PM and before meets	Monday through Friday

STUDY FOR EASTERN SCHOOL TRACK FACILITY .....

CHART A

HIGH SCHOOL TRACK COMPETITION/PRACTICE ACTIVITIY SCHEDULE

DCP86-41STU 5 29 87

EVENT	USE	USER	NUMBER	SCHEDULE	DATES
State and regional high school track/field meets	55 M/65 yd. dash 300, 600, 1000 yd. and mile runs two mile relay 55M high hurdles long jump triple jump high jump shot put	Mens and womens teams	148 teams in 2 day meets - 100 teams at any one time - 1 to 30 partic./team - up to1800/day	Start at 8 AM with 2 1/2 hr. prep. All teams arrive during this time. 5 hr.meets	Dec. 1 to mid March - 6 Sat., 2 Sun., 1 Fri/Sat, 1 Sat/Sun., 1 Sat/Sun/ Mon., 1 Thurs.
		Spectators: student, parents, coaches	800 to 1000 per day	Come and go from 8 AM to 6 PM	
		Officials	50 - 10 of whom are women	Arrive as early as 8AM set up, leave after 5PM	
		Coaches	100 - 150/day	Arrive with respective teams	
		Mainten./Security	10/10	7 AM to 6PM	
		Tickets/Concess.	5	8 AM to 6 PM	
Boston High Schools	Practice during the week	Students with coaches	Variable	2 to 7 PM and before meets	Monday through Friday
Suburban High Schools	Practice during the week	Students with coaches	Variable	2 to 7 PM and before meets	Monday through Friday

STUDY FOR EASTERN SCHOOL TRACK FACILITY .....

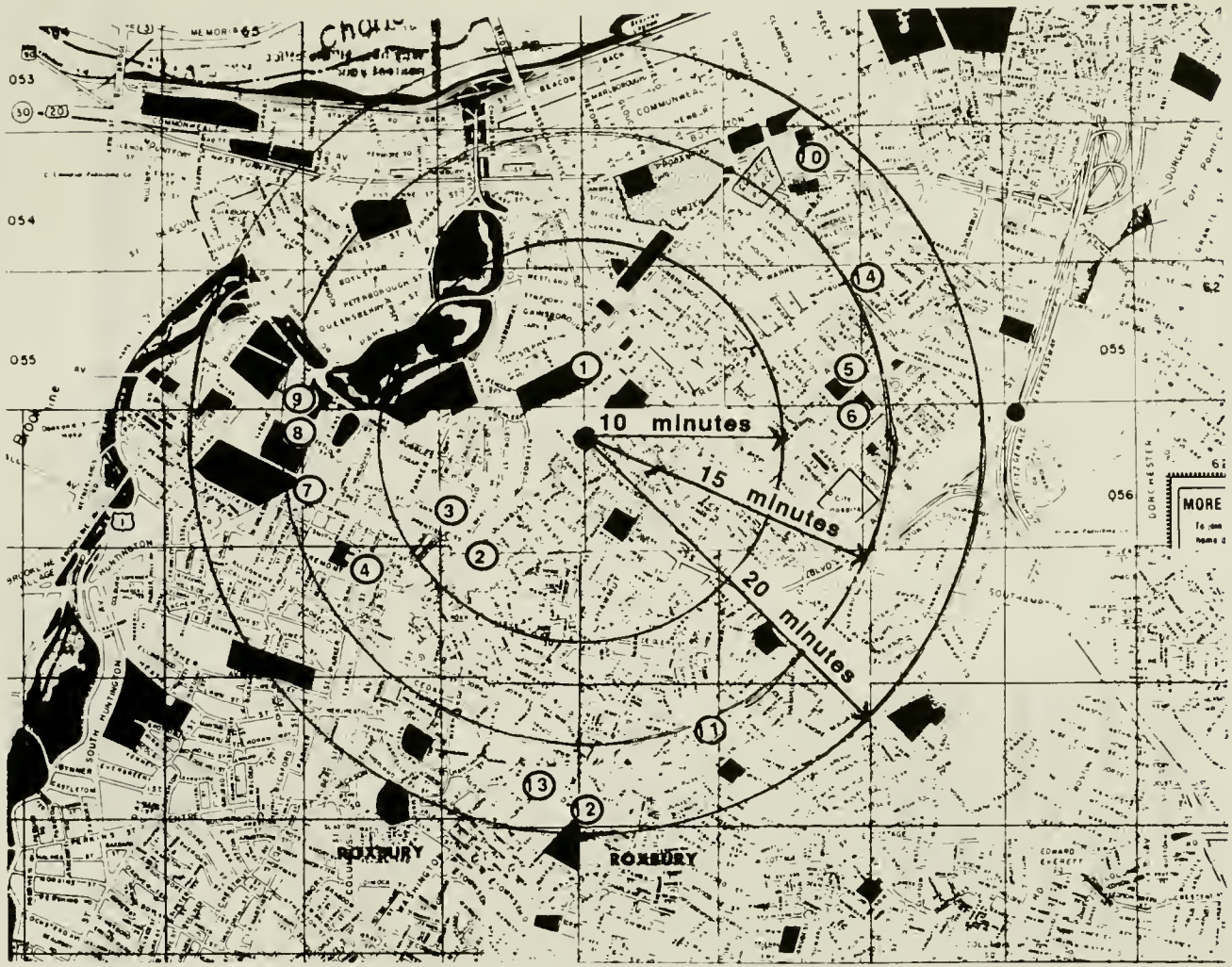
CHART A

Public Indoor Recreational Need Summary

	FACILITY	NET SQ. FT.	# HOURS OPEN/WK	FACTOR	FACTORED SQ. FT.
10 min.	YMCA (on Huntington Ave.)	80,000	93	100%	80,000
10 min.	Madison Park High School	39,000	40	43%	16,774
10 min.	Mission Hill Recreation Center	7,000	48	52%	3,613
15 min.	Tobin Municipal Recreation Center	16,800	35	38%	6,323
15 min.	Blackstone Comm. School	8,000	54	58%	4,645
15 min.	Boys Club of America	8,000	65	70%	5,591
15 min.	Mass. College of Art	13,000	5	5%	699
15 min.	Boston Latin	11,250	10	11%	1,210
15 min.	Boston English	18,000	10	11%	1,935
20 min.	YMCA (on Clarendon)	60,000	93	100%	60,000
20 min.	Dearborn	4,000	16	17%	688
20 min.	Shelbourne Center	8,400	93	100%	8,400
20 min.	Lewis Middle School	7,000	20	22%	1,505
20 MIN.	Charles E. Mackey School	7,000	20	22%	1,505

	demand	existing	need
10 minute summary =	106,134	100,387	5,747
15 minute summary =	242,620	120,790	121,830
20 minute summary =	379,795	192,889	186,906

10, 15, AND 20 MINUTE WALKING RADIUS FROM SITE WITH EXISTING SUPPLY



1. YMCA (on Huntington Ave.)
2. Madison Park High School
3. Mission Hill Recreation Center
4. Tobin Municipal Recreation Center
5. Blackstone Community School
6. Boys Club of America
7. Massachusetts College of Art
8. Boston Latin High School
9. Boston English High School
10. YMCA (on Clarendon)
11. Dearborn Elementary School
12. Shelbourne Center Community School
13. Lewis Middle School
14. Charles E. Mackey School

Program Development

STUDY FOR AN EASTERN SCHOOL TRACK FACILITY

II

A. Introduction

B. Program Components

C. Program and Concept Alternatives

D. Design Guidelines

E. Program Options

A. INTRODUCTION

This chapter outlines the program components of the proposed track facility and the program alternatives which result from their combination. It describes the process of defining the program components and the development of the program alternatives. Three core components have been identified for this facility:

High School Track Programs — **87,735 n.s.f.**

High school track programs need an indoor track facility to hold large meets and to practice in.

Northeastern University — **70,700 n.s.f. plus field house**

Northeastern's recent master plan has identified a need for 70,700 n.s.f. as a full indoor recreational facility for its students.

Community Recreation — **5,747 n.s.f. / 121,830 n.s.f. / 186,906 n.s.f.**

There is a shortage of local indoor recreational facilities for general community use. A needs analysis shows a deficit of 39,000 s.f. within a 10 minute walking radius, a shortage of 193,000 s.f. within a 15 minute walking radius, and a shortage of 352,000 s.f. within a 20 minute walking radius.

The component pieces describes the results of research and analysis undertaken to determine the needs of these components. It also describes the methodologies used to determine the needs.

The Program Development and Alternatives section describes the issues, constraints, and rationales considered in the development of the program alternatives.

The final piece of this chapter includes the three facility programs which were determined to be the most viable for further development. These are summarized as follows:

PROGRAM SUMMARY

Intermediate

This program represents the combination of the High School Track Program plus a minimum level of community recreation space.

- 121,731 total n.s.f.
- field house (includes dressing rooms) - 73,960 n.s.f.
- general use lockers &
  coach/staff lockers - 4,520 n.s.f.
- multipurpose - 5,670 n.s.f.
- squash courts - 592 n.s.f.
- racquetball courts - 4,000 n.s.f.
- weights & physical conditioning - 2,520 n.s.f.
- trainer/first aid - 1,575 n.s.f.
- office/administration - 3,384 n.s.f.
- lobby, facility support, & mechancal - 14,400 n.s.f.
- field house mezzanine - 10,260 n.s.f.

Expanded Intermediate

This program represents the combination of the High School Track Program plus an expanded amount of community recreation space.

- 136,100 total n.s.f.
- field house (includes dressing rooms) - 73,960 n.s.f.
- general use lockers, coach/staff lockers,
  vistors/special use lockers - 6,420 n.s.f.
- multipurpose - 13,070 n.s.f.
- squash courts - 592 n.s.f.
- racquetball courts - 4,000 n.s.f.
- weights & physical conditioning - 5,000 n.s.f.
- trainer/first aid - 1,575 n.s.f.
- office/administration - 3,384 n.s.f.
- lobby, facility support, & mechanical - 17,500 n.s.f.
- field house mezzanine - 10,260 n.s.f.

Combined

This program represents the combination of the High School Track Program plus the Northeastem Universtiy program, which would also meet the demand for community recreation space, assuming a minimum of 50% of the time is available for public use.

- 172,973 total n.s.f.
- field house (includes dressing rooms) - 73,960 n.s.f.
- general use lockers, coach/staff lockers, vistors/special use lockers - 19,840 n.s.f.
- multipurpose - 18,375 n.s.f.
- squash courts - 1,184 n.s.f.
- racquetball courts - 9,600 n.s.f.
- free weights - 2,625 n.s.f
- fitness center - 1,470 n.s.f.
- nautilus - 3,150 n.s.f.
- universal - 1,680 n.s.f.
- trainer/first aid - 1,050 n.s.f.
- office/administration - 4,234 n.s.f.
- lobby, facility support, & mechanical - 22,500 n.s.f.
- field house mezzanine - 10,260 n.s.f.

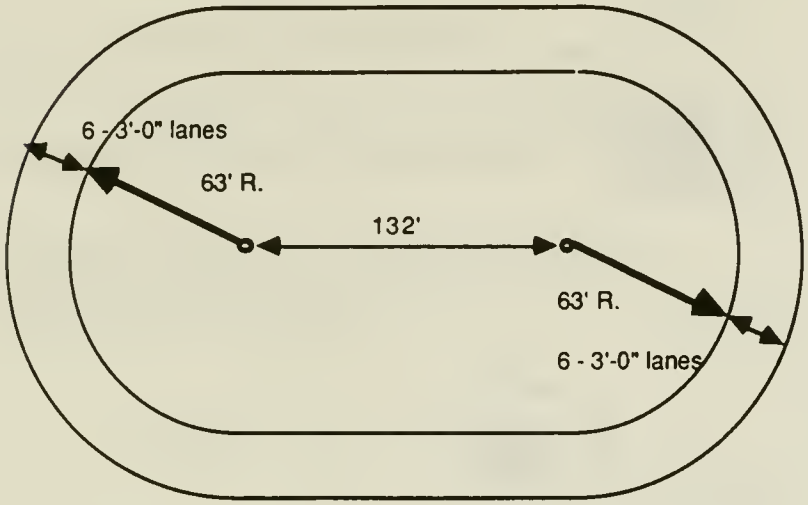
High School Track Programs

The facility needs of the high school track programs have been determined using

- results of the survey sent to all eastern Massachusetts high school indoor track programs,
- the knowledge and resources of the Massachusetts State Track Coaches Association (MSTCA), and
- architectural and planning standards for indoor track facilities.

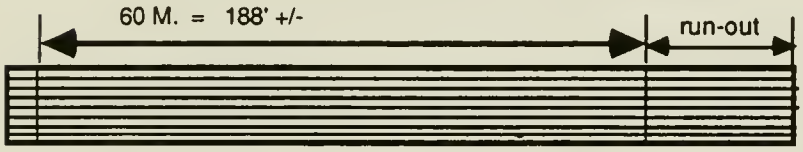
The resulting program is a field house which includes a track, infield and outfield areas, and collapsible bleacher seating, mezzanine fixed seating, storage, dressing rooms, and public toilets plus staff lockers, a lobby, track liaison's offices, a trainer's area, and parking.

Chart B shows the individual spaces, their uses and requirements, and the net square feet necessary.



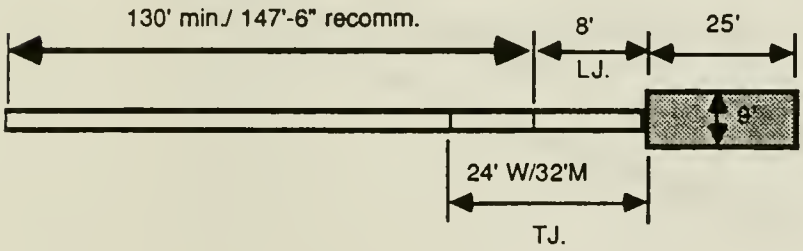
banked turns, removable curbs, synthetic rubber surface in multiple layers for tuning purposes set in depressed concrete slab.

Competition Track



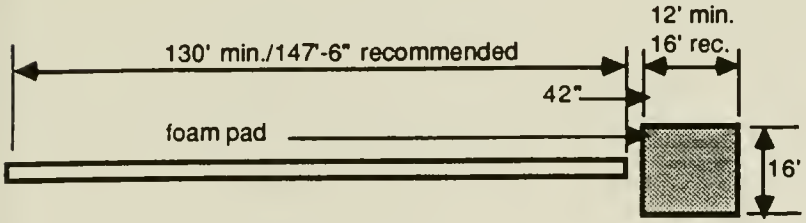
60 meter dash track
8 - 3'-6" lanes; for dashes and hurdle races; synthetic rubber surface similar to balance of infield surface.

Competition Dash



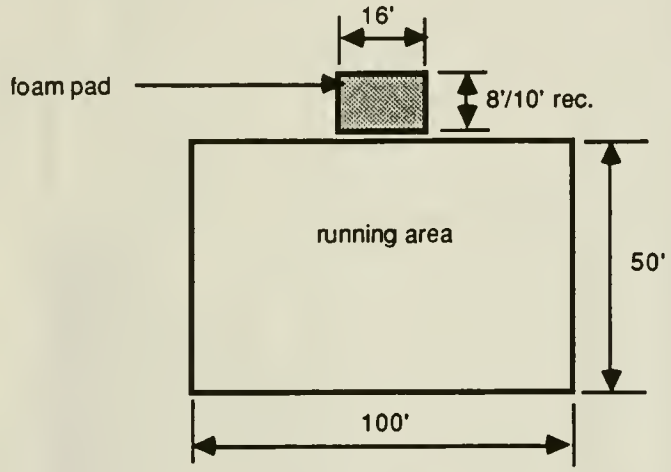
shown are long jump and triple jump dimensions;
landing pit to be sand filled; minimum runway width of 3'-6" synthetic rubber surface runway.

Long/Triple Jump



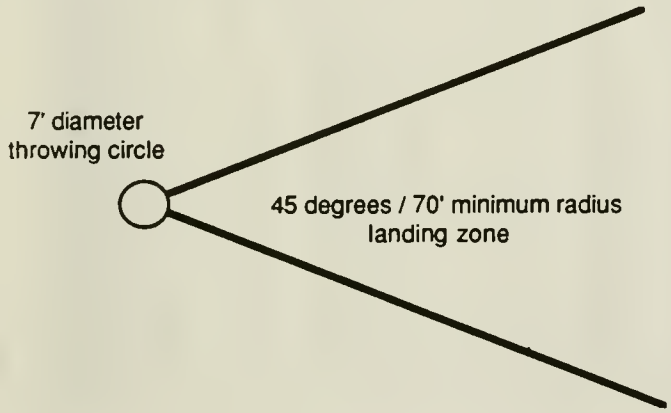
4'-0" minimum wide track; can be a roll out track; within infield; pole pit needs cover when not in use; general floor surface of synthetic rubber within infield area.

Pole Vault



pad and running square can be layed out anywhere within the infield and overlap other activities if necessary

High Jump



locate in outfield area; portable sand box landing area set on synthetic rubber floor surface

Shot Put

HIGH SCHOOL TRACK SPACE/USE PROGRAM SUMMARY

DCP86-41STU 5/22/87

SPACE/AREA	USE	REQUIREMENTS	SIZE (NSF)
Field House			73,960
Track	For competition and practice; events such as relays, 300 , 600, 1000 yd. and mile runs, two mile relay	Six lanes at 3'-0" each; 63'-0" radius, synthetic/tuned surface, banked turns, curbs, spike resistant, multiple layered surface set in depressed slab	included as part of field house area
Infield	For competition and practice, events such as sprints, hurdles, high jump, long jump, hurdles	Synthetic surface throughout, multiple layered surface for sprint track, 8 lane sprint track with 4'-0" wide lanes, no shot put in infield	-
Outfield Area	For shot put area - 45 degree quadrant 75' to 80' long, participant staging area, possible location for long jump if it does not fit in infield, practice dash track - 6 lanes at 4'- 0" each.	Same synthetic flooring as infield, protection cage around shot put area	-
Bleacher Seating	Used during meets/competitions, fold back for practice	For 1000 to 1500 people	-
Closed Storage	For securing tables, hurdles, netting, timing clocks, standards, etc.		
Mezzanine Fixed Seating	For use during events/meets , for spectators and competitors, accomodate TV personnel	For 1000 to 1500 people, separate access from stairway lobbies	10,300
High School Dressing Rooms	For use by men's and women's teams to change into and out of uniforms, to accomodate up to 900 men and 900 women during meets and practice	Does not include showers, includes toilets, includes 900 self service baskets for men and same for women, located on same level as track floor, separate access from stairway lobbies	(4,200) included in field house
Public Toilets Field House	To accomodate spectators during events, men's and women's		1500
Coaches/Officials Lockers	Men's and women's	30 half lockers, includes 5% storage	520

STUDY FOR EASTERN SCHOOL TRACK FACILITY ..... **CHART B**

HIGH SCHOOL TRACK SPACE/USE PROGRAM SUMMARY

DCP86-41STU 5/22/87

SPACE/AREA	USE	REQUIREMENTS	SIZE (NSF)
Lobby	To provide for participant check - in and accomodate participants and spectators up to 3000 people total per day over 8 hour period; includes concessions, toilets, ticket area, and information area		6400
Track Liaison's Offices	Includes private offices, clerical, storage/supplies, files, xerox, conference, open office area, conference room, waiting and reception	Year round use	3400
Trainer	Includes treatment room, toilet, storage, office		1575
Parking	For up to eight van like vehicles		
Subtotal			97,655

STUDY FOR EASTERN SCHOOL TRACK FACILITY ..... **CHART B**

The following chart (Chart C) is a summary of Northeastern University's program needs as outlined by Northeastern.

Additional source material is included in the Appendix.

NORTHEASTERN UNIVERSITY SPACE/USE PROGRAM

DCP86-41 STU 5/22/87

SPACE/AREA	USE	REQUIREMENTS	SIZE (NSF)
Field House			73,960
Track	For competition and practice for intercollegiate events such as 300, 600, 1000yd. and mile runs, two mile relays; for jogging and general recreation	Six lanes at 3'-0" each; 63' radius; synthetic surface on wood sleeper system; banked turns	included as part of the field house area
Infield	For competition and practice for sprints, hurdles, high jump, long jump, pole vault For competition, practice, and rec. for basketball, tennis, volleyball, badminton, soccer, PAR course	Wood floor for competition basketball, synthetic floor for balance of infield, 8 lane sprint track with synthetic surface over wood sleeper system - 4'-0" wide lanes.	"
Outfield Area	Synthetic flooring on slab throughout, shot put quadrant of 45 degrees 75' to 80' long, possible alternate long jump location	Same synthetic flooring as the infield area; protection cage around shot put	"
Bleacher Seating	For use during competitions; fold back for practice and recreation	For 1000 to 1500 people	"
Closed Storage	For securing hurdles, netting, timing clocks, general track and field equipment		"
Mezzanine/ Fixed Seating	For use during competitions, for spectators and competitors, accomodation of TV crews	For 1000 to 1500 people, separate access from stairway lobbies	10,300
General Use Lockers	For drop-in basis, no overnight lockers	Includes laundry at 800 sf and 5% storage	9250
Visitor/Special Use Lockers	N U's varsity practice and intercollegiate visiting room	Includes 5% storage	3150
Faculty/Staff /Alumni Lockers		Includes 5% storage	2940

NORTHEASTERN UNIVERSITY SPACE/USE PROGRAM

DCP86-41 STU 5/22/87

SPACE/AREA	USE	REQUIREMENTS	SIZE (NSF)
Multi Purpose	For dance, aerobics, large gatherings	Wood sleeper floor system, folding partitions, includes 5% storage	10,500
Multi Purpose	For gymnastics, wrestling, combatives	Matted floor system, includes 5% storage	7875
Squash	Two courts		1184
Racquetball	Twelve courts		9600
Free Weights	With warm up area, 400 sf for rope skipping and stretching	Includes 5% storage	2625
Nautilus	For two runs of nautilus equipment one for men and one for women	Includes 5% storege	3150
Fitness Center	For rowing machines, treadmills, stairmasters, etc.	Includes 5% storage	1470
Universal	Two universal machines, two speed bag stations, two heavy bag areas, stretching area	Includes 5% storage	1680
Trainer/ First Aid	Teacher training/instruction, therapy, injury prevention	Includes 5% storage	1050

STUDY FOR EASTERN SCHOOL TRACK FACILITY .....

CHART C

NORTHEASTERN UNIVERSITY SPACE/USE PROGRAM

DCP86-41 STU 5/22/87

SPACE/AREA	USE	REQUIREMENTS	SIZE (NSF)
Lounge	For students	Includes 5% storage	735
Meeting Rooms	For use by offices	Includes 5% storage	1260
Main Office Area	Membership/guest passes; security	Includes 5% storage	850
Office/Bldg. Staff		Includes 5% storage	1050
Storage	For equipment storage		2000
Subtotal			70,700 does not include field house

STUDY FOR EASTERN SCHOOL TRACK FACILITY .....

CHART C

The program components established for the track, Northeastern and other users form the raw material for creating and examining possible alternative programs. Programs selected for further development should encompass compatible activities, should allow for maximum use of proposed spaces, should meet the needs of the different user groups, should support recreational diversity, should provide a facility which can be effectively managed and maintained, and one which makes effective use of the site.

In looking at the possible programs, there are a few key variables which account for most differences among the 10 - 15 program options considered. These include track configuration, parking, the amount of recreational space (multi-purpose, racquetball etc.), and whether support spaces - lockers, lobbies, etc. - are shared by all users or dedicated to individual organizations.

The smallest option considered had a total of 103,000 net square feet, including the field house, some multi-purpose space, and support functions. The largest option, at 296,000 s.f., included full provision of separable spaces for the MSTCA and for Northeastern, plus 160 parking spaces.

The track configuration is a major determinant in both the proposed program and the building. A competition -quality track specification is based on several key decisions, some of which are clear choices, while others are more questions of preference or belief. The track proposed in all the final program options is an NCAA standard track. This is consistent with high school standards, and by also meeting college competition standards it will allow greater flexibility in use. IAAF standards were considered, but generally not recommended. Tracks can be flat, fixed banked, or hydraulically adjustable banked. Since the facility's principal purpose is competitive track, a banked track is recommended. While the adjustable track would allow greater off-time use of the field house floor, the anticipated maintenance difficulties and high initial expense of the adjustable track argued against it. The recommended configuration is therefore, a fixed banked track. A final area of continued investigation is the actual track surfacing. There is a great deal of science associated with track surface design, but there appears to be little consensus about which construction methods and surfaces are

best. This may in part be because the state of the art in track surfaces appears to be moving forward rapidly. Synthetic athletic flooring of some sort, rather than wood, is the current standard for competition tracks. Final banking and detailing is often worked out based on full scale model tests. The intermediate level decisions concern the base which supports the actual track surface. A wood sleeper system has been used in some facilities (e.g. Harvard) to provide a resilient base, however the most recent facilities (e.g. Brown) use multiple layers of synthetic surfacing of varying stiffness to provide resiliency. The base assumptions for the costing of this facility were that layered synthetic track would be used, however the wood sleeper system with synthetic overlay is priced as an add alternate.

Parking is another significant variation among alternatives. The site is currently used by Northeastern for surface parking for about 170 cars. The university is now completing a 935 car garage adjacent to the site, and expects to open the garage in the summer of 1987. Except for vans, the MSTCA does not require parking on site. It will be necessary to identify off-site parking for buses during meets, and to develop spectator parking plans which do not interfere with local circulation. The potential garage at Parcel 18 is expected to offer public parking. Buses can be used as spectator shuttles from designated garages or parking areas during the major meets. These are among the ways to address parking without building structured parking on the proposed track site. The site is somewhat small for this use - the track fills almost the entire site, with the result that there is no space for surface parking outside the building footprint. Parking provided on-site must, therefore, be included within the structural frame of the building - an expensive solution. Parking options range from only four van spaces to a multi-level garage. A multi-level garage must either be built below the water table, thereby greatly increasing costs but keeping the height of the building in harmony with the surrounding area; or if built at grade, there would be layers of parking as a base - thus producing an expensive mid-rise track facility out of scale with the area and inactive at street level. The multi-level garage was not included in the final four alternatives. Two alternatives have very limited (4-20 spaces) parking on grade, the other two programs alternatives have one floor of structured parking providing about 110 spaces.

The third major variation is in the amount of recreation space

provided in addition to the field house. A field house alone, serving only high school track athletes, would have a great deal of unused capacity. In order to make the overall facility most useful, other spaces need to be added to provide a range of athletic uses. The principal types of additions are multi-purpose space for aerobics, combatives etc., weight training rooms, and racquetball courts. The track infield, in all cases, can have secondary striping which allows it to be used during off hours for basketball, volleyball, and other team activities. Four basic program groupings underly the various program options. The smallest program - the 'basic' - provides only some multi-purpose space in addition to the field house and support spaces. The intermediate program provides six racquetball courts, some weight training space, and multi-purpose space in addition to the field house and about 20 parking spaces. The expanded intermediate program exchanges the parking for additional multi-purpose space. The combined program includes the full recreational space and support space requested by Northeastern University, plus the field house and support space for the MSTCA. The combined program assumes that the two organizations need to be able to physically separate their space to allow independent operation at certain times. These basic models can be modified in several ways, and any can be combined with a parking option. Each program except the basic - which did not appear to offer enough diversity of activities - is included in one of the schematic alternates.

The final variable, noted above, is the question of shared or exclusive use, particularly of support spaces - lockers, offices, storage, etc. Clearly the field house floor can be used for different purposes by different groups by providing secondary striping and by scheduling. Weight, multi-purpose and court space can also be time scheduled in such a way that a full range of user groups have access to the facility. The combined program alternate looks at the space requirements of zoning the building so that two principal organizations - MSTCA and Northeastern, could operate almost independently of each other in the building - having separately assigned locker, office, and storage spaces, and the ability to operate with separate circulation systems. The other program options assume shared use of all spaces on a scheduling basis.

After testing a number of programs, four emerged which seem to provide the best solutions to the range of issues identified above.

These four programs - the intermediate, expanded intermediate, expanded intermediate with parking, and the combined with parking - are the basis of the schematic options developed in the next pages. The programs and their relationships to the original requests are compared in the accompanying program chart. Also noted for comparison is the 'shared' program (not developed in schematic form) which meets both track and Northeastern requirements but assumes that all spaces are shared rather than separable.

In addition to the programs, schematic development is also shaped by the following design guidelines, and by the additional design objectives identified in the schematic alternatives section.

Urban Design

- Massing shall be responsive to building configurations proposed along Columbus Ave. from Ruggles St. to Benton St. and should help form the height transition from Parcel 18 to adjacent institutional and residential uses.

- Cornice line of building to be approximate to Columbus Ave. area.

- Facade shall be primarily of unit masonry construction, consistent with that of surrounding buildings and the brick/stone palette of Boston's architectural fabric. The facade along Columbus Ave. shall provide visual interaction with the street and landscape easement and provide opportunities for design of pedestrian scale.

- Building entrance shall be undercut in order to allow for a transition into the building and space for people milling around the entrance.

Urban Design

- Site design and landscape shall be coordinated in a consistent and harmonious manner with the design of the MBTA landscape easement along Columbus Ave.

- Temporary parking on another reasonably accessible site must be available to park 50 -100 school buses during school track meets. A convenient bus drop-off area on the site must be provided which allows passengers to load and unload safely and provides some space for bus queuing. It is proposed that a maximum of between 60-75 buses would be arriving within a 2-hr. period.

- On-site parking of approximately ten spaces is desirable to accommodate the school track administration during track meets.

- A spectator parking plan which prevents spill-over parking in adjacent residential areas must be part of the final site design.

- Service access which must be provided for includes:

  - van drop-off of equipment by school track which can not be stored in the facility

  - van drop-off of concession food for track meets

  - garbage dumpster

- The facility will be accessed mainly by pedestrians from the Ruggles Street MBTA station, the bridges connecting with NU, and the new parking garage. A pedestrian access route from these areas to the building entrance should be clearly defined.

- The access road which runs from Columbus Avenue around the back of the building must accommodate a fire truck.

E. FOUR PROGRAMS FOR FURTHER DEVELOPMENT

The hybrid program alternatives developed for further exploration and definition in the concepts section and directly upon which the concepts are based are:

1. "Intermediate" Program:
   representative of the track program plus some community recreation space — **120,900 n.s.f.**

2. "Combined" Program:
   representative of the track program plus Northeastern University's full program. Includes one full level of structured parking — **173,000 n.s.f.**

3. "Expanded Intermediate" Program:
   representative of the track program plus expanded community recration space — **136,600 n.s.f.**

4. Hybrid Alternative of Option 3:
   One full level of structured parking — **136,600 n.s.f. plus parking**

The square feet of recreational space included in option 3 most closely matches the public recreational space need within a 10 minute walking radius.

CONCEPT PROGRAM OPTIONS

SPACE	MSTCA Program Component		NORTHEASTERN Program Component		PROGRAM OPTIONS			
					INTERMED. ①	EXPANDED ② INTERMED ④	COMBINED ③	SHARED ⑤
		N.S.F.		N.S.F.	N.S.F.	N.S.F.	N.S.F.	
Field House Δ		73,960		73,960	73,960	73,960	73,960	73,960
Infield Area								
Competition Dash	part of fld	hs nsf	part of fld	hs nsf.	part of fld hs nsf	part of fld hs. nsf	part of fld hs nsf.	
High Jump		"		"	"	"	"	"
Pole Vault		"		"	"	"	"	"
Long/Triple Jump Shot Put		"		"	"	"	"	"
Basketball (2)		"		"	"	"	"	"
Tennis (2)		"		"	"	"	"	"
Track		"		"	"	"	"	"
Tennis (2)		"		"	"	"	"	"
Volleyball (3)		"		"	"	"	"	"
Badminton (1)		"		"	"	"	"	"
General Use Δ		3,200		8,000	4,000	4,050	13,250	8,800
Lockers	w/laundry	800	w/laundry	800				
Visitors/Special Use Lockers Δ				3,000	0	1,900	3,150	3,000
Faculty/Staff/ Alum. Lockers Δ	coaches	600		2,800	520	800	3,440	2,800
High School Dressing Rooms		(4,200) part of fld. hse.sf.			(4,200) part of fld. hse.sf.	(4,200) part of fld. hse.sf.	(4,200) part of fld. hse.sf.	
Multipurpose •			wood floor combatives dance aerobics	7,500	5,670	5,000	7,875	7,500
Multipurpose II •			multiuse floor or mats	10,000	0	7,400	10,500	10,000
Squash •			2 @ 592	1,184	592	592	1,184	1,184
Racquetball •			12 @ 800	9,600	4,000	4,000	9,800	9,600

NOTE:
Items in italics and small type are functions added tot he track program.

① This program representative of the Track program plus commun. rec.

② This program representative of the Track program plus expanded commun. rec.

③ This program representative of the Track program plus NU program

④ This program representative of option 2 plus parking

⑤ This program representative of the Track program plus NU program

CONCEPT PROGRAM OPTIONS

SPACE	MSTCA Program Component		NORTHEASTERN Program Component		PROGRAM OPTIONS			
					INTERMED. ①	EXPANDED INTERMED ②④	COMBINED ③	SHARED ⑤
	Description	N.S.F.	Description	N.S.F.	N.S.F.	N.S.F.	N.S.F.	
Free Weights •				2,500	0		2,625	2,500
Fitness Center •				1,400	0		1,470	1,400
Nautilus •				3,000	0		3,150	3,000
Universal •				1,600	0		1,680	1,600
Weights and Phys. Conditioning •					2,520	5,350	0	
Trainer/ First Aid •		1,500		1,000	1,575	1,800	1,050	1,050
Lounge				700	0		735	700
Meeting Rooms				800	0		1,260	800
Office/Admin.	incl. maint. staff space	4,800	maintenance	800 1,000	3,384	3,600	4,234	1,800
Office					0	0	1050	1,500
Lobby	tickets, toilets concession & check-in	6,400			6,400	9,900	13,000	6,400
General Building Storage		2,500		2,000	0	0	2,000	2,000
Facility Support			meeting rms.	1,200	2,500	2,500	0	1,200
Mechanical		5,500		5,500	5,500	5,500	7,500	5,500
Field House Mezzanine Δ		10,260		10,260	10,260	10,260	10,260	10,260
TOTAL NSF.		109,520		148,804	120,900	136,800	172,973	156,554

PROGRAM FOR INTERNAL SPACE LAYOUTS FOR: OFFICE/ ADMINISTRATION, LOCKER ROOMS, TRAINER ROOM, WEIGHT ROOMS, DRESSING ROOMS

Option A

Administration/Offices			3,990 s.f.
1.	Facility administrator (private)	200	
2.	Events director/coordinator (private)	150	
3.	Facility manager (private)	150	
4.	Bookkeeper/accountant (private)	150	
5.	Secretary/waiting (open office)	200	
6.	Files/storage	200	
7.	Meeting room	200	
8.	State track liaison (private)	200	
9.	MSTCA files, storage, equipment	200	
10.	MSTCA conference room	200	
11.	General open office area	550	
12.	Common work area	2200	
Men's Lockers			2,000 s.f.
1.	Locker area: 100 half lockers, 200 quarter lockers	850	
2.	Shower area: 20 shower heads	300	
3.	Drying area:	300	
4.	Toilets: 2 wc, 3 u, 5 L.	175	
5.	Control/towels (shared by mens and womens)	300	
Women's Lockers			2,000 s.f.
1.	Locker area: 100 half lockers,200 quarter lockers	850	
2.	Shower area: 20 private stalls with dressing areas	400	
3.	Drying area	200	

4.	Toilets: 5 wc, 5 L.	175	
5.	Laundry/storage (shared by men/women)	150	
Coaches/Officials Lockers Men			300 s.f.
1.	Locker area: 15 full lockers	150	
2.	Showers: 3 private stalls	75	
3.	Toilets: 1 wc, 2 u, 2 lavs	75	
Coaches/Officials Lockers Women			300 s.f.
1.	Locker area: 15 full lockers	150	
2.	Showers: 3 private stalls	75	
3.	Toilets: 3 wc, 2 lavs	75	
Trainer.....			1,700 s.f.
1.	Office area (private)	150	
2.	Treatment room	300	
3.	Toilets	50	
4.	General training area	1100	
High School Dressing Men (same for all schemes)			2,000 s.f.
1.	Locker area: 900 self service baskets		
2.	Toilets: 4 wc, 6 u, 8 lavs		
High School Dressing Women (same for all schemes)			2,000 s.f.
1.	Locker area: 900 self service baskets		
2.	Toilet area: 10 wc, 8 lavs		

Option B

Office and Administration MSTCA			3,400 s.f.
1.	MSCTA liaison (private)	150	
2.	Clerical (private)	100	
3.	Office storage/supplies	150	
4.	Files	150	
5.	Xerox	75	
6.	Conference room	175	
7.	Open office area with six cubicles	600	
8.	Waiting/reception	200	
9.	Common work area + circulation	1800	
Office and Administration Building Manager			1,100 s.f.
1.	Facilities manager (private)	150	
2.	Clerical (private)	100	
3.	Secretarial (2 cubicles)	100	
4.	Maintenance workers (6 cubicles)	600	
General Office Area			800 s.f.
1.	Athletic director (private)	150	
2.	Assistant athletic director (private)	100	
3.	Program director (private)	100	
4.	Secretarial (3 cubicles)	175	
5.	Waiting	100	
6.	Xerox	75	
7.	Storage	100	
Trainer			similar to Option A

High School Lockers			Similar to Option A
General Use Lockers Men			5,4000 s.f.
1.	Locker room: 200 half lockers, 200 quarter lockers, 150 full lockers	2,600	
2.	Showers: 30 heads	500	
3.	Drying area	500	
4.	Toilets: 4wc, 6u, 10 lavs.	300	
5.	Central control/equipment (shared with women)	150	
6.	Storage (shared with women)	450	
7.	Laundry/towels (shared with women)	800	
General Use Lockers Women			4,000 s.f.
1.	Locker room	2,650	
2.	Showers (half to be private)	500	
3.	Drying area	500	
4.	Toilets: 10 wc, 10 lavs	300	
Alumni, Faculty, Staff Lockers Men			1,400 s.f.
1.	Locker room: 100 full size lockers	950	
2.	Showers: 6 shower heads	100	
3.	Drying area	100	
4.	Toilets: 2 wc, 3 u, 5 lavs.	150	
5.	Towels/storage	100	
Alumni, Faculty, Staff Lockers Women			1,400 s.f.
1.	Locker room: 100 full sized lockers	950	
2.	Showers: 6 private stalls	100	

3.	Drying area	100
4.	Toilets: 5 wc, 5 lavs	150
5.	Towels/storage	100

Coaches, Officials, Lockers ..... same as option A

Special Use Lockers Men ..... 1,700 s.f.

1.	Locker area: 110 full sized lockers	950
2.	Shower area: 10 shower heads	150
3.	Drying area	150
4.	Toilets: 2 wc, 3 u, 5 lavs	150
5.	Equipment/control (shared with women)	150
6.	Towels/Storage (shared with women)	150

Special Use Lockers Women ..... 1,400 s.f.

1.	Locker room: 100 full sized lockers	950
2.	Shower area: 10 private stalls	150
3.	Drying area	150
4.	Toilets: 5 wc, 5 lavs	150

Weight rooms .....

1. All weight rooms in all schemes to be provided with enclosed storage areas equivalent in size to 5% of the total area.

Options C and D

Office Area	similar to Option A
General Lockers Men and Women	similar to Option A
Coaches Lockers Men and Women	similar to Option A
Visitors Lockers Men and Women	similar to Option B
Trainer	similar to Option A

Schematic Alternatives

STUDY FOR AN EASTERN SCHOOL TRACK FACILITY

III

A Introduction

B. Schematic Descriptions

C. Design Assumptions

D. Program Verification

E. Drawings

F. Preliminary Cost Estimates

This chapter illustrates the conceptual development of the three programmatic options and introduces a parking option as a subset of one of the alternatives. The three program alternatives developed here are:

	ALTERNATIVE			
	A	B	C	D
Program 1	XXXXXX			
Program 2		XXXXXX		
		parkg.		
Program 3			XXXXXX	XXXXXX
				parkg.

1. INTERMEDIATE PROGRAM.
   Track program + public demand.

2. COMBINED PROGRAM.
   Track program + public demand exceeding a ten minute walking radius; Northeastern University program.

3. EXPANDED INTERMEDIATE PROGRAM.
   Track program + public demand within a ten minute walking distance.

The components of the above program alternatives are described in the previous chapter.

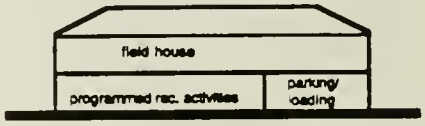
The schematic alternatives can be described as follows:

- One half level of recreational program activities with the remainder of the level devoted to on-grade parking + field house level. This is called alternative A. This alternative correlates to the Intermediate program above.

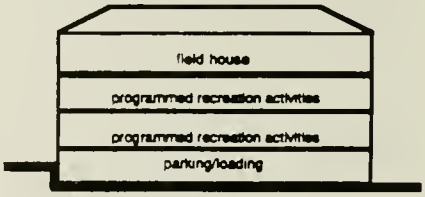
- Two levels of programmed recreational activity + the field house level + one full level of parking in a parking garage below the levels of programmed activity. This is called alternative B. This correlates to the combined program above.

- One full level of programmed recreational activity with no car parking + field house level. This is referred to as alternative C. This correlates to the expanded intermediate program above.

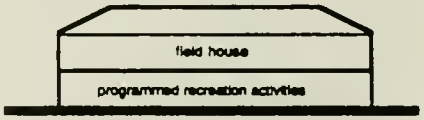
- Concept option similar to concept option C but with one full level of parking in a parking garage one full level below the programmed rereational floor. This is referred to as alternative D.



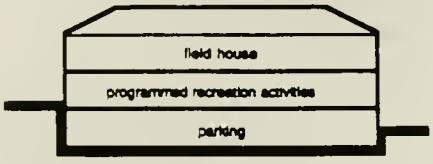
CONCEPT OPTION A



CONCEPT OPTION B



CONCEPT OPTION C



CONCEPT OPTION D

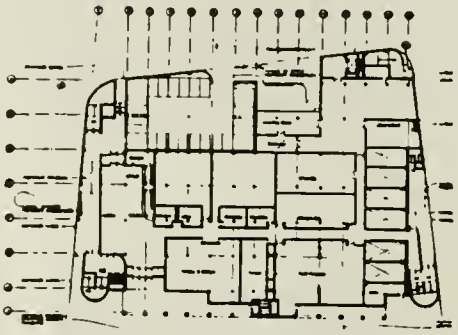
The following sections describe the schematic alternatives, and compare their square footage areas against the program alternatives; describes the design assumptions underlying the alternatives; outlines costs; and presents the concept drawings.

B. SCHEMATIC DESCRIPTION

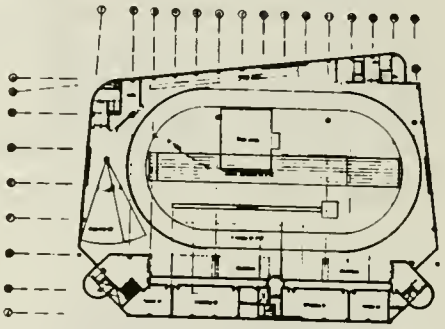
Refer to program comparison charts and drawings in the following sections.

Schematic Alternative A

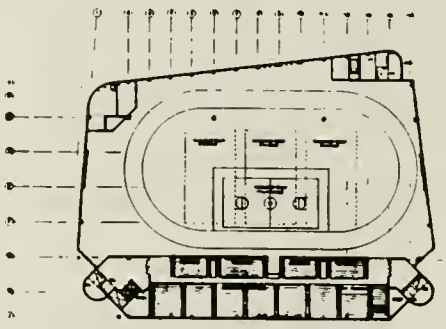
- 122,742 nsf
- 179,903 gsf
- One half floor level of programmed recreational activities on grade; one half floor level of on grade parking; field house floor level as second floor level
- Bottom level of racquetball/squash courts one full level below grade
- Height ot cornice of 42' above grade
- Height to top of roof of 57' above grade
- Parking for 21 cars and 4 vans
- One lobby shared by all users
- Joint use/sharing of all facilities



First Floor

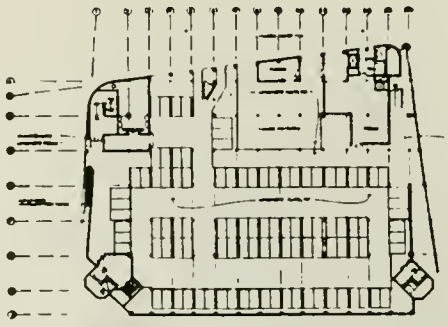


Track Floor

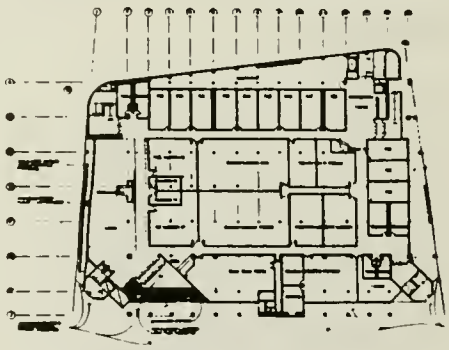


Mezzanine

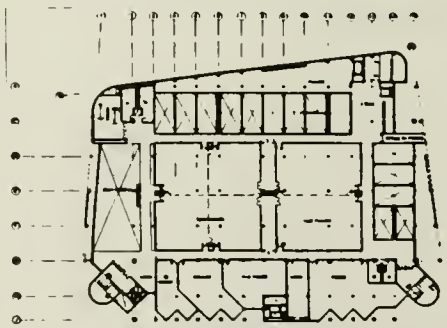
- 180, 000 nsf
- 319,384 gsf
- One full level of parking one half level below grade
- Two full levels ot programmed recreational activity with first floor at one half level above grade.
- Third floor field house level
- Cornice height of 61' above grade
- Height ot top of roof of 76' above grade
- Parking for 110 cars and 4 vans
- Condominium like separation of user groups: Separate lobbies and entrances for track/public and for Northeastern University; with potential to provide separate access for different user groups to distinct activities within the building.



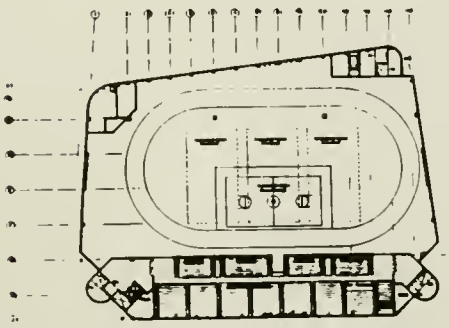
Parking Floor



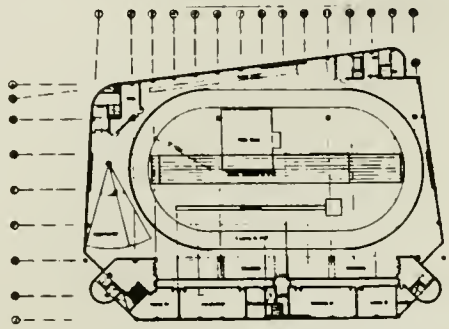
Entry, Office, Courts, Locker



Multipurpose, Weights Floor

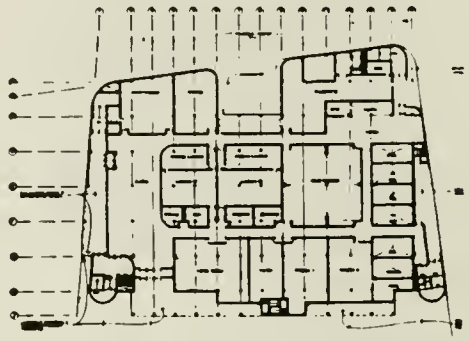


Mezzanine

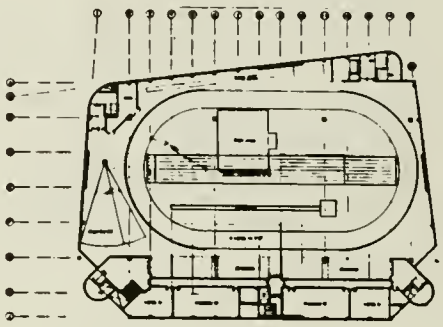


Track Floor

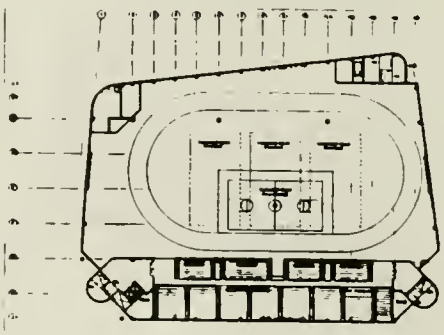
- Similar to alternative A except that two weight rooms; two multipurpose rooms and visitors lockers are provided; separate lobby for Northeastern is provided
- No car parking is provided; parking for 4 vans
- 136,320 nsf
- 180,085 gsf



First Floor

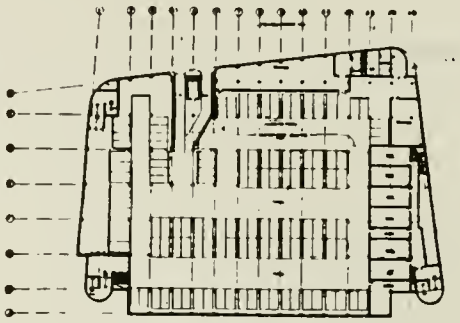


Track Floor

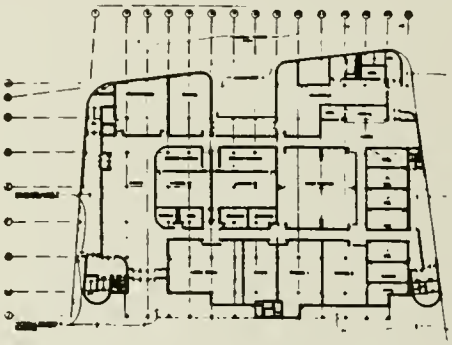


Mezzanine

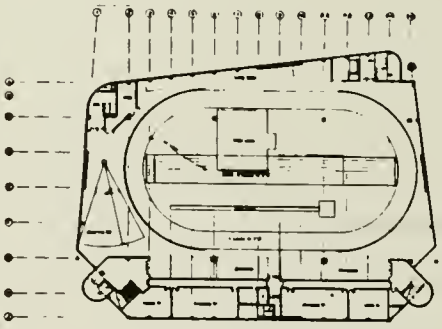
- Similar to altemative C except that one full level of garage parking is provided one full level below grade
- 134,160 nsf
- 255,698 gsf
- Parking for 110 cars and 4 vans



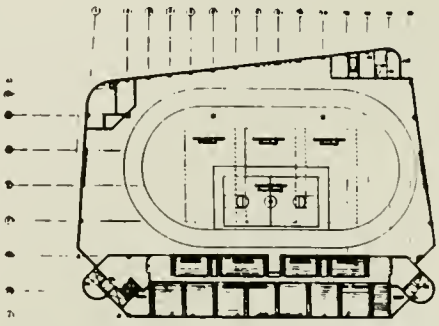
Parking Floor



First Floor



Track Floor



Mezzanine

Structural

- Limit clear spans in the field house to spans that can be easily covered by off the shelf trusses (140') and to spans that preclude loading requiring pile foundations.
- Provide a roof of regular geometry over the track area to carry major long span loading. Infill a secondary roof structure between this main structure and the perimeter walls.
- Field house roof structure comprised of a "structural cage" of deep trusses over the track area. This network braced back horizontally to a secondary roof structure spanning betwen the "cage" and the irregular perimeter walls. Secondary roof structure hoizontal loading carried to shear walls located in perimeter exterior walls.
- Minimize floor to floor heights by reducing clear span distances in multipurpose rooms.
- Floor depth of 4'-6": 6" composite slab, 2'-6" steel beams, 2'-0" for ductwork.
- Integrate field house daylighting and natural ventilation with roof structure to minimize cost of providing daylighting and natural ventilation. Refer to building sections.

Mechanical

- Provide daylighting and natural ventilation for the field house. Use motorized louvers in roof and walls.
- Provide separate HV systems for the field house.
- Air condition only office spaces. Provide large volumes of unconditioned (not cooled) air to ventilate other spaces.
- Provide power and cabling for TV crews. Provide separate meters for their use.
- Sprinkle building throughout.

- Use gas as a fuel - gas utility is in Columbus Ave.; alleviates problems of price fluctuation and storage of oil; gas generally cheaper than electricity.

- Relocate buried power conduit easement to fire lane between new parking garage and facility.

Architectural

- Field house level design similar among all concept options.

- Sprinkling field house reduces sizes of egress stairs - total of five means of egress with a total egress width of 52'.

- Contain high school track activity to certain portions of the building: main lobby and lockers and the field house.

- Provide direct access for public and high school students from buses and the T to the main lobby. Main lobby entrance location should be readily evident from the exterior.

- Provide direct access from main lobby to the field house without having to pass through other protions of the building.

- Provide direct access from stairway lobby at field house level to dressing rooms and competitors' staging areas.

- Separate circulation of spectators from competitors at field house level.

- Provide direct access for spectators to seating mezzanine from stairways without need to circulate on field house floor.

- Provide high school dressing rooms and toilets on field house floor level.

- Provide ample public toilets on field house floor level separate from high school areas.

- Locate shot put area in outfield of field house. Surround with protection fence.

- Track to be six 3'-0" lanes with 63' radius; 220 yd; banked turns with walls. Keep columns 8' away from track minimum.

- Provide a competition dash track in infield - 8 lanes at 3'-6". Provide for pole vault and high jump also.

- Provide 3 practice basketball courts and one tournament court in track infield.

- Structure field house roof trusses to accept the weight of rolled up tennis courts.

- Provide only two heirarchies of striping on track infield - track events and basketball

- Locate long jump outside of track infield - sand pit hard to cover.

- Provide minimum clearance of 25' in field house; 12' in multipurpose and weight rooms; and 9' elsewhere.

- For option B, provide separate access and lobby for the University, and zone building so that the facility can be used simultaneously by public/track and the University.

- Provide a live and active first floor level on Columbus Ave. side of building. Locate active spaces and glazing here.

- Conceal parking structure in option B as a podium for building.

- Minimize mass of building:

  - slope roof edge back to lower cornice line

  - provide articulated relief to facade of building to break down the facade; use pilaster, lintels, horizontal floor separation, varied brick patterns, mixture of brick and stone, residential sized or modulated windows

  - articulate entrances and glazing

  - use sunscreens to break up facade

  - use facade materials and opening sizes sympathetic to surrounding buildings

- Provide parking access road between facility and new parking garage.
- Maintain 15' separation between garage and facility to alleviate need to sprinkle garage.
- Maintain 20' MBTA landscape easement at front of building.
- Build facility up to property lines and easement line to maximize square footage of program spaces.

The following summary chart, directly below, compares the square footage as measured off the drawings with the program as outlined in the previous chapter. A more detailed chart follows on the next four pages. A subtotal of recreation space only is calculated for each alternative to compare to the public program template from the previous chapter.

As can be seen from the chart, the space provide in the concept alternatives A and B exceeds that programmed for the **intermediate** (program 1) and **combined** program (program 2) alternatives. The space provided in concept alternatives C and D coincides closely with the space programmed in the **expanded intermediate** program alternative (program 3).

CONCEPT ALTERNATIVES

	PROGRAM	A		B		C		D	
	NSF	NSF	% +/-	NSF	% +/-	NSF	% +/-	NSF	% +/-
		GSF		GSF		GSF		GSF	
PROGRAM 1	120,900	122,750	-.8%						
		179,000							
PROGRAM 2	172,973			180,200	+4%				
				319,400					
PROGRAM 3	136,600		-			136,300	-.1%	134,200	-.1%
						180,100		255,700	

SPACE	A DESCRIPTION	NSF +/-	B DESCRIPTION	NSF +/-	C DESCRIPTION	NSF +/-	D DESCRIPTION	NSF +/-
FIELD HOUSE	icludes highschool	73,960		73,960		73,960		73,960
MAIN FLOOR	dressing, public	0		0		0		0
	toilets & bisacher seating.							
FIELD HOUSE	includes fixed	10,260		10,260		10,260		10,260
MEZZANINE	stadium seating	0		0		0		0
GENERAL USE	for highschool and	4,063	ncludes highschool	13,100		4,056		4,056
LOCKERS	public use also	+63	public lockers	-150		+56		+56
VISITOR/SP.USE		0		2,920		1,892		1,892
LOCKERS		0		-230		- 8		- 8
FACULTY/STAFF	for coaches and	995	Includes locker for	3,870		835		835
ALUM. LOCKERS	officials	+475	coaches & officials	930		+315		+315
HIGHSCHOOL	part of field house	<4876>		<4876>		<4876>		<4876>
DRESSING	area with 1800	+676		+676		+676		+676
	self service baskets.							
MULTIPURPOSE1	Includes floor with	5,955	permanently padded	9,398		4,944		2,784
	movable pads	+285	floor	+1,523		-726		2,886-
MULTIPURPOSE2			hardwood floor	11,669		7,416		7,416
				+1189		+16		+16
SQUASH	one court	592	two courts	1,184		592		592
RAQUETBALL	five courts	4000	twelve courts	9,600		4000		4000

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

PROGRAM VERIFICATION
OF CONCEPTS

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87

SPACE	A DESCRIPTION	NSF + / -	B DESCRIPTION	NSF + / -	C DESCRIPTION	NSF + / -	D DESCRIPTION	NSF + -
FREE WEIGHTS				2,210 -415				
FITNESS CENTER				2,000 +530				
NAUTILUS				3,939 +789				
UNIVERSAL				1,697 +17				
WEIGHT/PHYSICAL CONDITIONING	one room for all weight conditioning	2,712 +192				5,353 +53		5,353 +53
TRAINER/FST.AID		1,737 +162		1,277 +227		1,770 +195		1,770 +195
LOUNGE				750 +15				
MEETING ROOMS				1,175 -85				
GENERAL OFFICE ADMINISTRATION		3,990 +606		6,423 +1130		3,636 +252		3,636 +252
LOBBY		4,243 -2,157		12,010 1000		9,918 +418		9,918 +418

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

PROGRAM VERIFICATION
OF CONCEPTS

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87

SPACE	A		B		C		D	
	DESCRIPTION		DESCRIPTION		DESCRIPTION		DESCRIPTION	
		NSF		NSF		NSF		NSF
		+/-		+/-		+/-		+/-
SUBTOTAL NSF		112,507		167,442		128,632		126,472
		+1224		+3969				
MECHANICAL		6,174		6,300		5,355		5,355
		+674		-1200		-145		-145
GENERAL BLDG		4,061		8,435		2,333		2,333
STOR.&FAC SUPP		+1561		+4435		-167		-167
TOTAL NSF		122,742		180,177		136,320		134,160
		+1011		+7204		+220		
								-1940
GSF		179,00		319,384		180,085		
INCLUDES PRKG								
PARKING	21 cars, 4 vans	11,890	110 cars,4 vans	62,824	4 vans	2,800	110 cars, 4 vans	62,824
SUBTOTAL		15,000		43,000		24,100		22,000
RECR. SPACE ONLY (1)								

NOTE: The denominator number represents the degree of conformance of concepts to program.

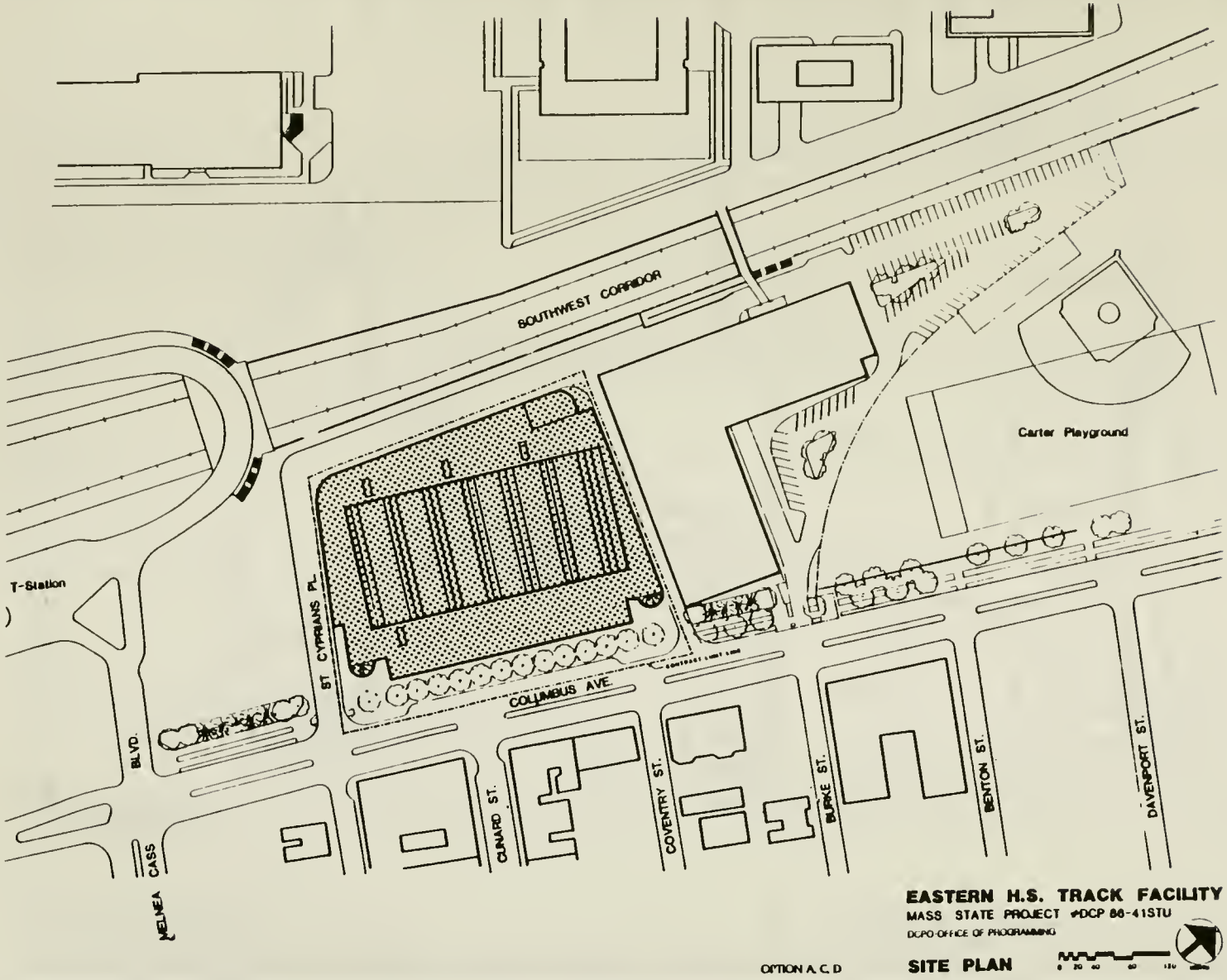
* Indicates spaces included in recreation space subtotal.

1. Infield of track not included in these subtotals - 17,000 nsf. of secondary recreation uses.

E. DRAWINGS

The following drawings present the four concept alternatives described previously. The field house and its mezzanine level are the same in all four schemes. All that changes from one alternative to another is the location of the front stair towers at the field house level.

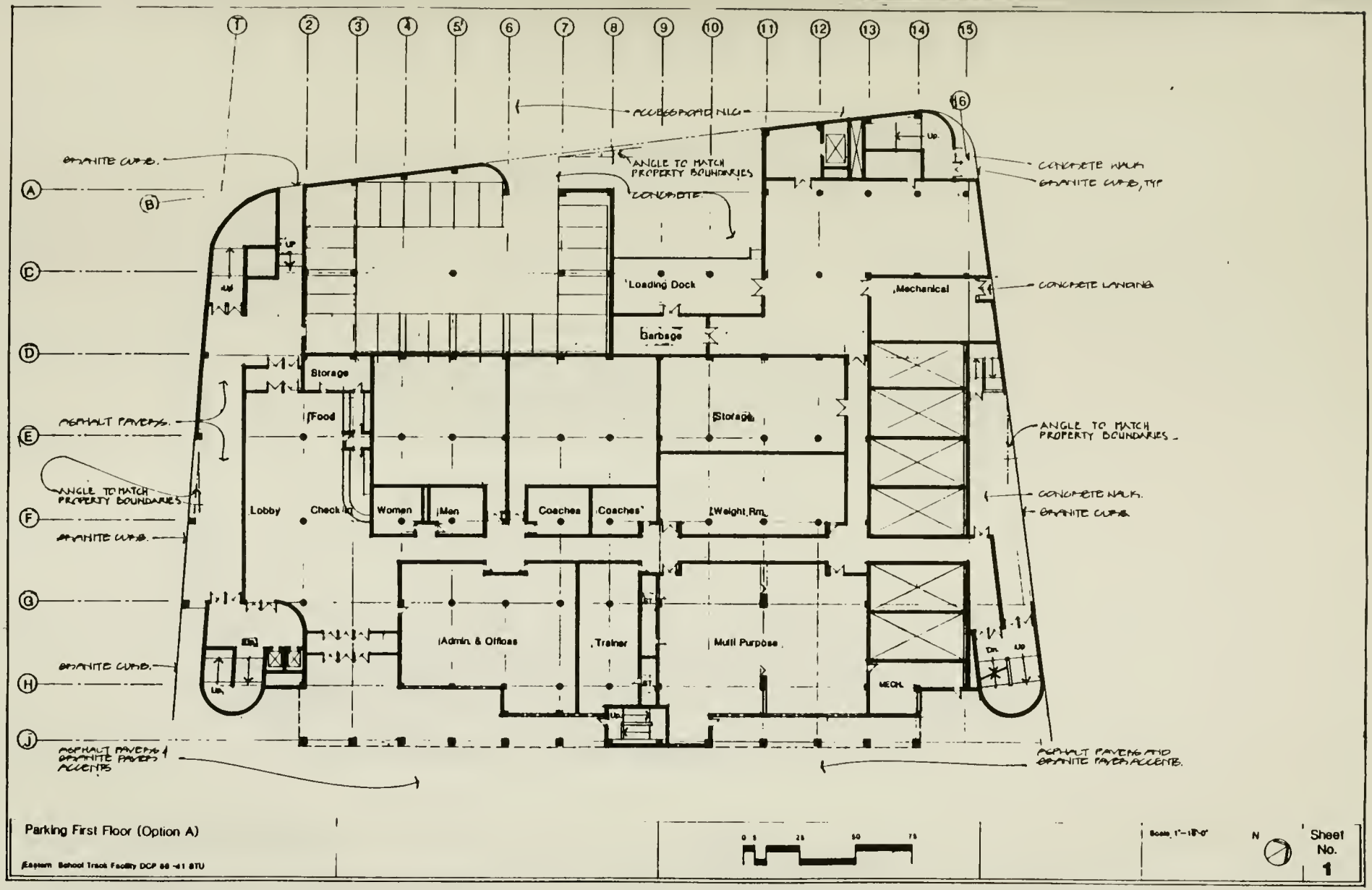
>>>CONCEPT A



STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

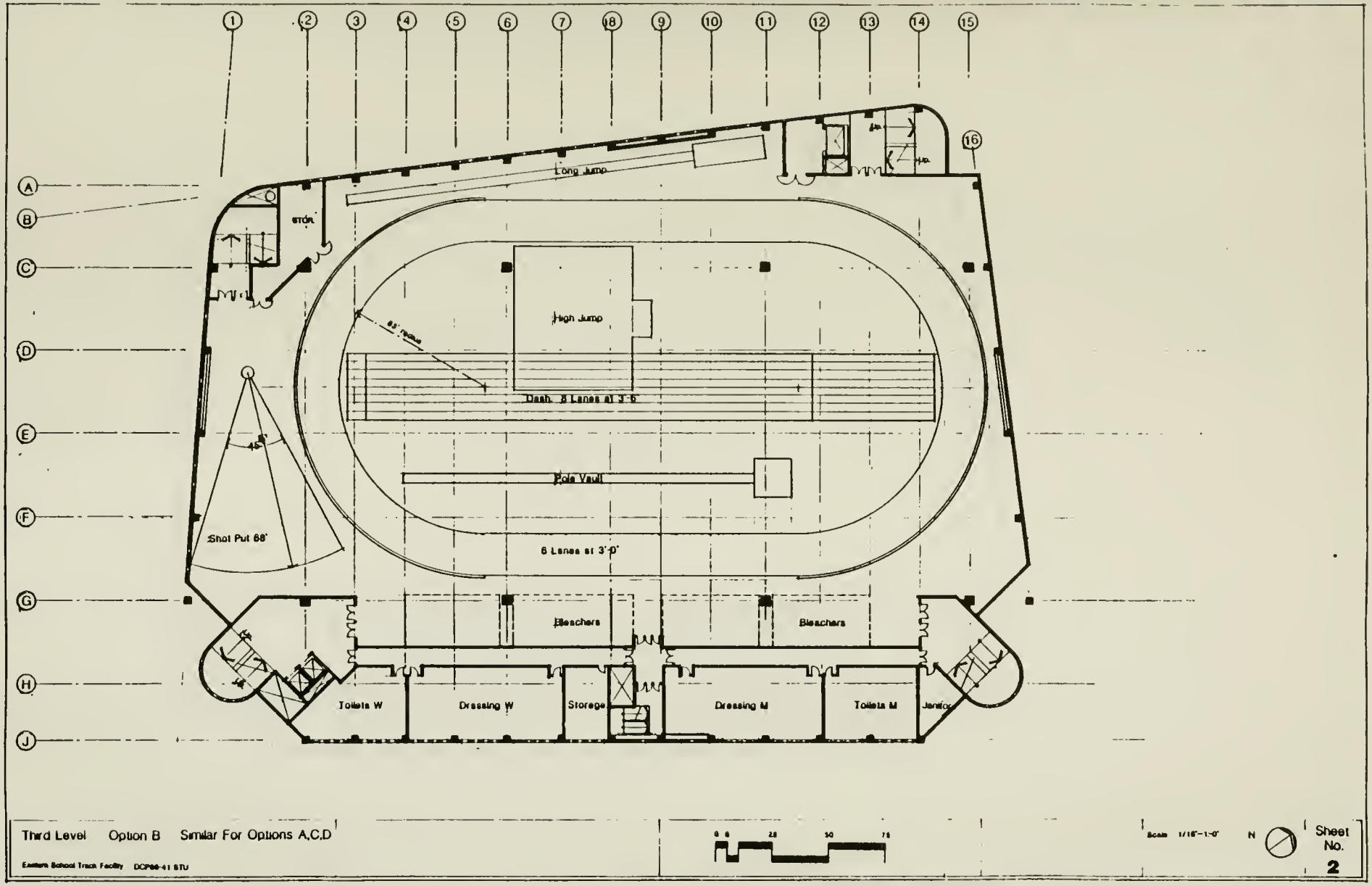
SITE PLAN

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



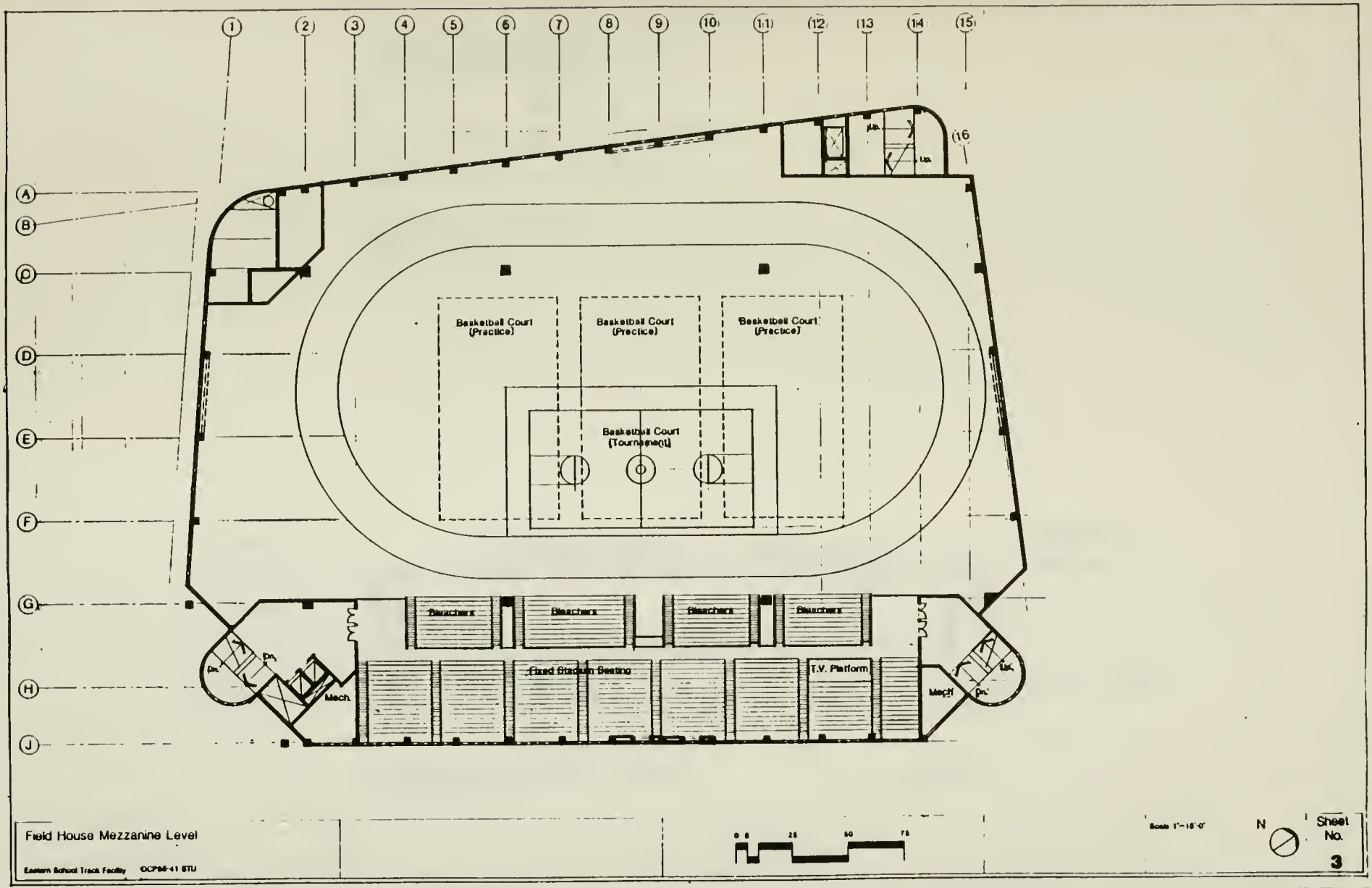
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



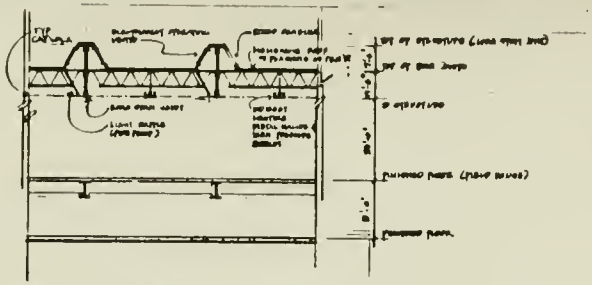
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87

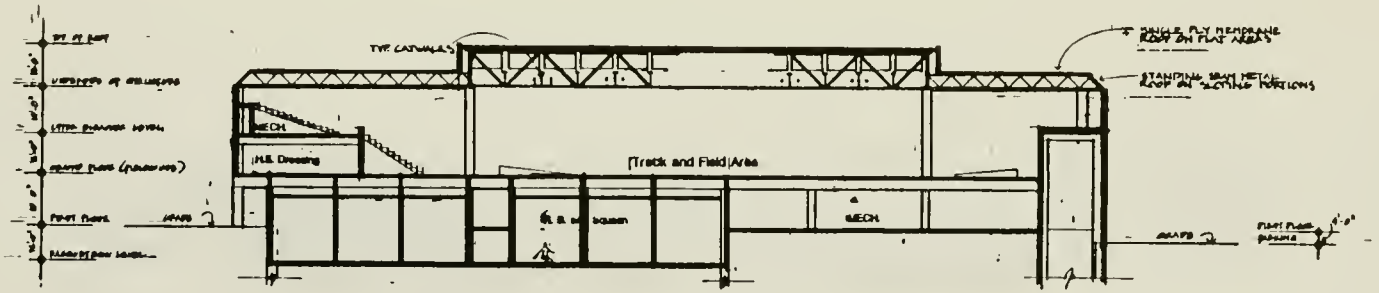


STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



SECTION THROUGH FIELDHOUSE LOOKING EAST



SECTION LOOKING SOUTH (OPTIONS A, C & D SIMILAR)

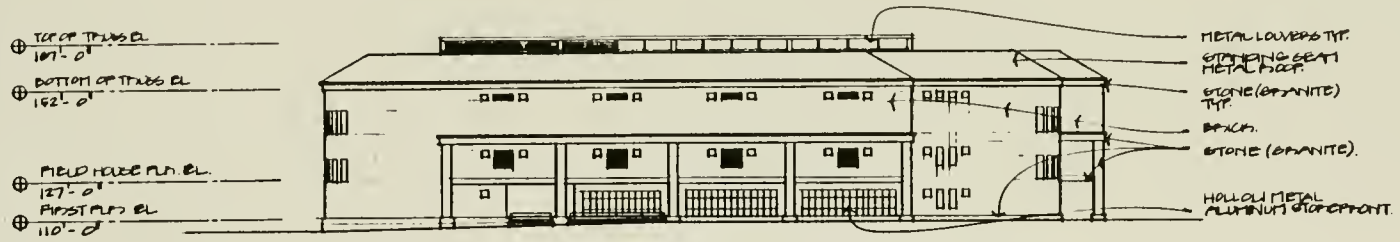
1" = 16'-0"

Section (Options A, C, D)

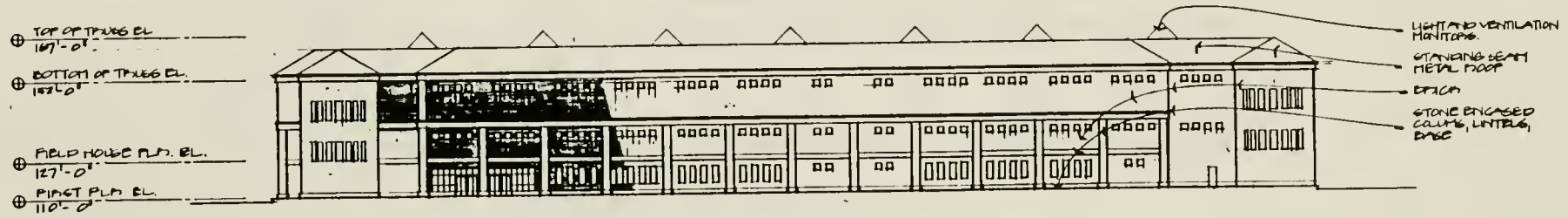
Sheet No. 4

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPD OFFICE OF PROGRAMMING 5.29.87



SOUTH ELEVATION (OPTION A, B, D).


TOP OF TRUSS EL 167'-0"
BOTTOM OF TRUSS EL 152'-0"
FIELD HOUSE FLR. EL. 127'-0"
FIRST FLR. EL 110'-0"
LIGHT AND VENTILATION MONITORS.
STANDING SEAM METAL ROOF
BRICK
STONE ENCASED COLUMS, LINTELS, BASE

EAST ELEVATION (OPTIONS A, C, D)

Elevations: (Options A,C, D)

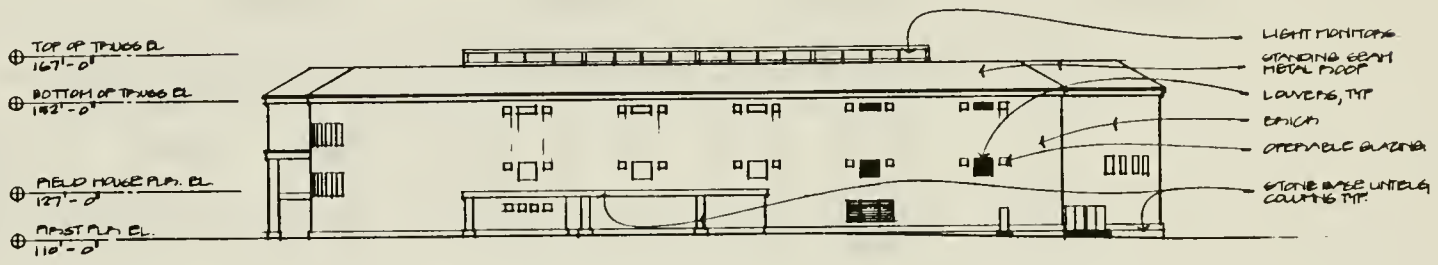
Eastern School Track Facility DCP86-41 STU

Scale: 1" = 16'-0"

Sheet No. 5

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



NORTH ELEVATION (OPTION A)

Elevations (Option A)

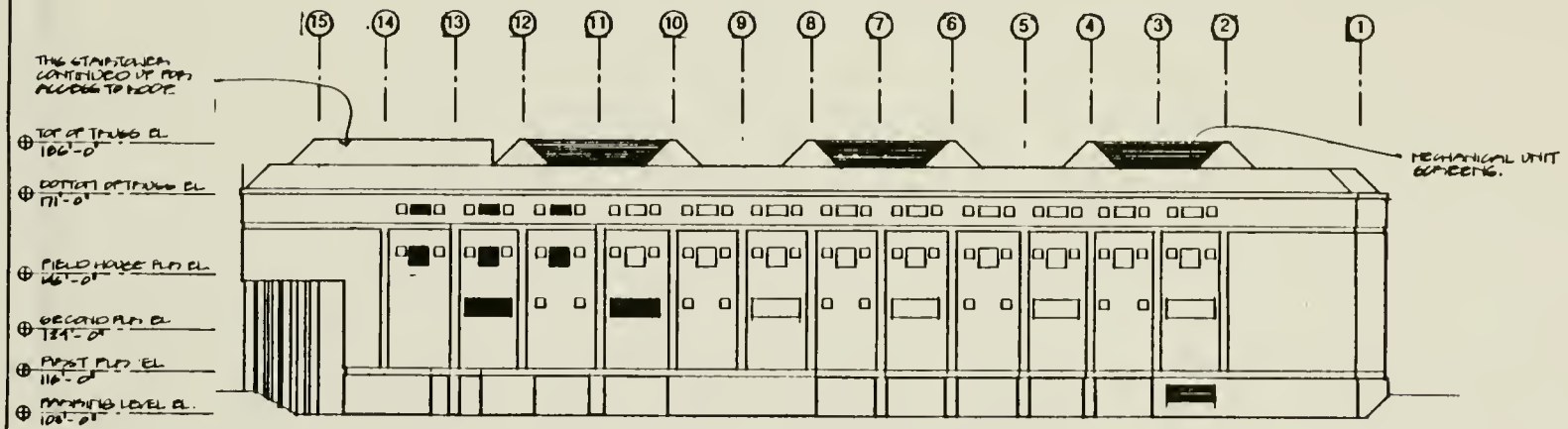
Eastern School Track Facility DCP86-41 STU

Scale: 1" = 16'-0"

Sheet No. 5A

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



WEST ELEVATION: OPTION B, SIMILAR OPTIONS A,C,D

Elevations (Option B, Similar Options A, C, D)

Eastern School Track Facility DCP86-41 STU

Sheet No. 9A

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87

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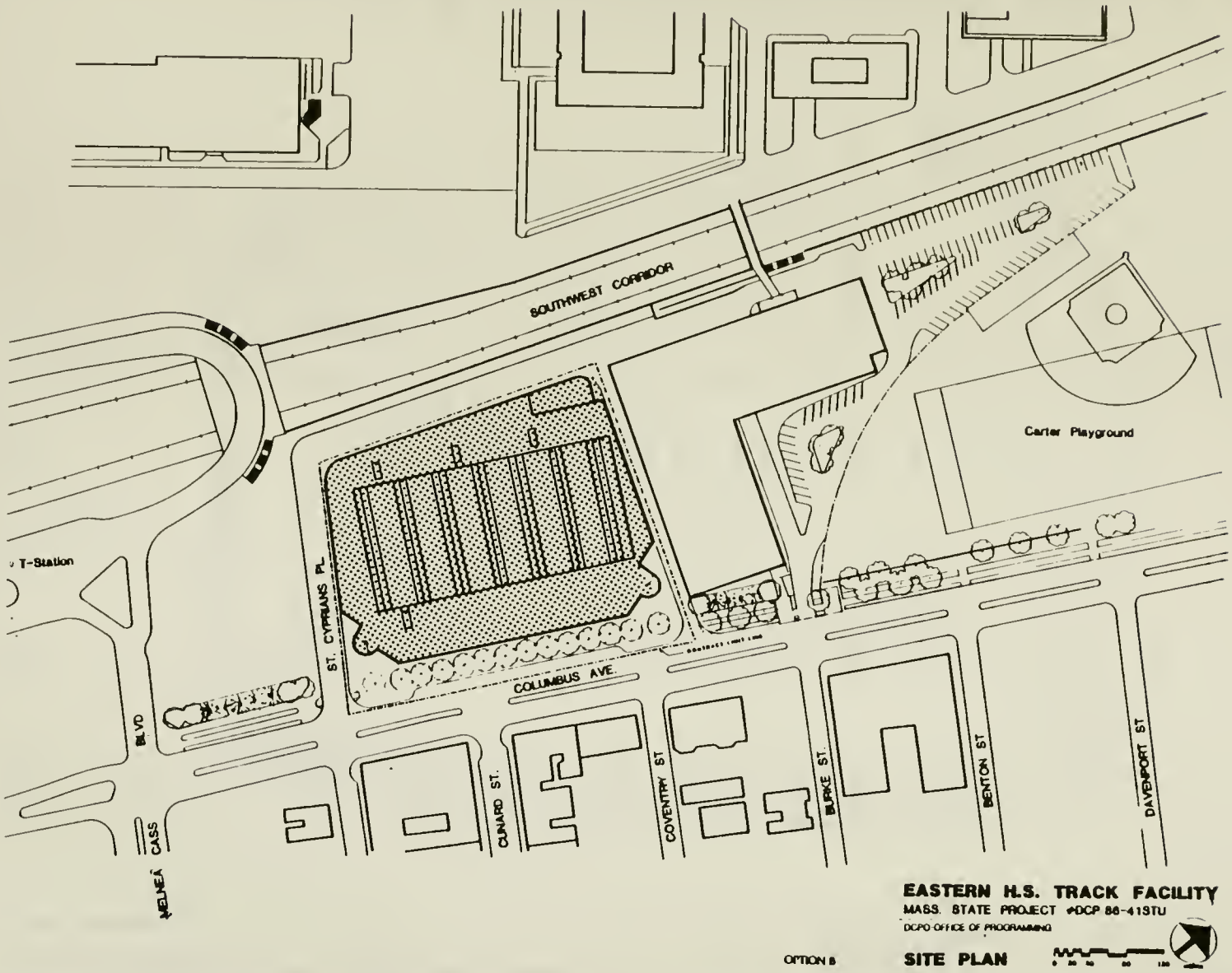
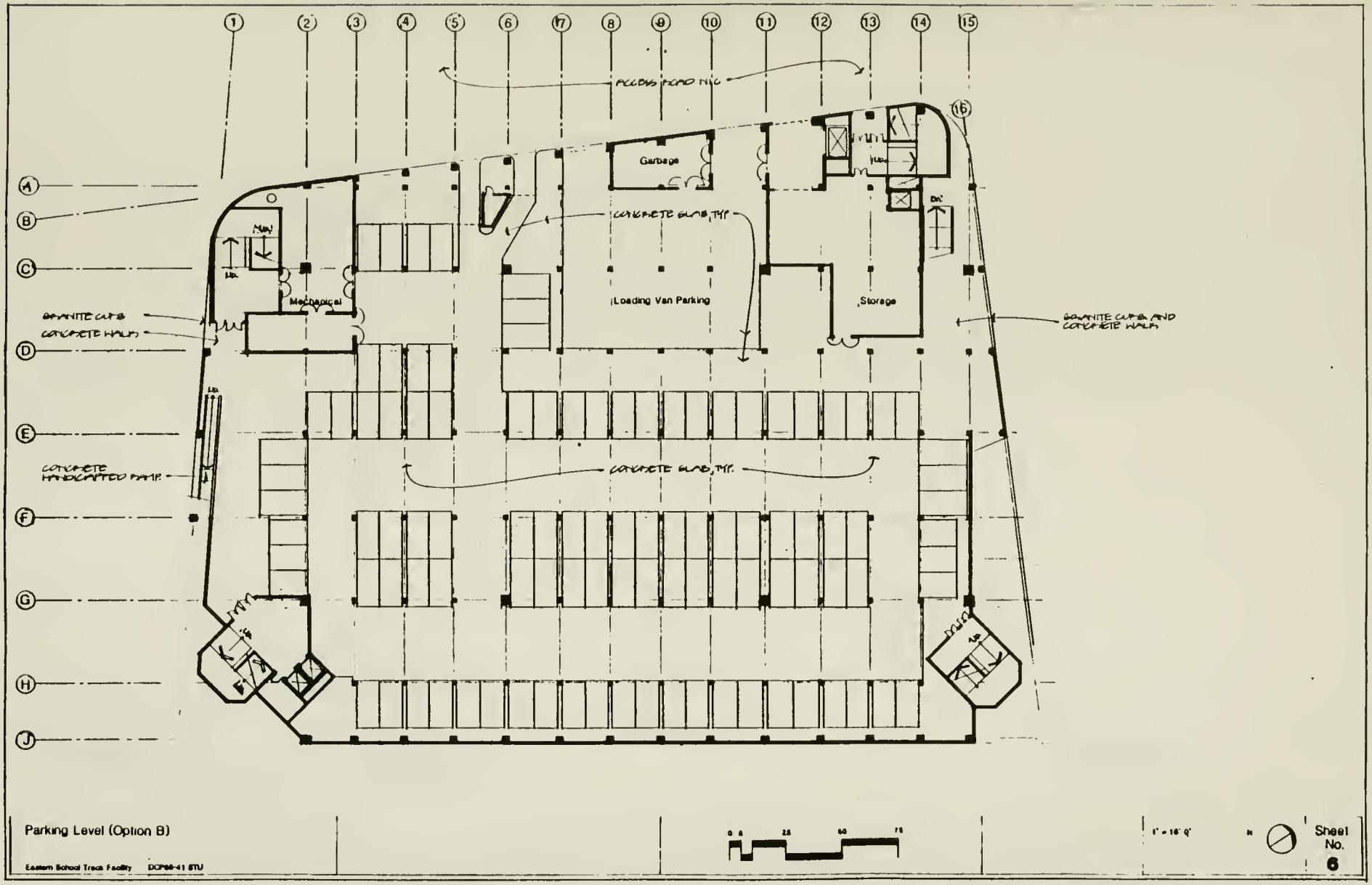


STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

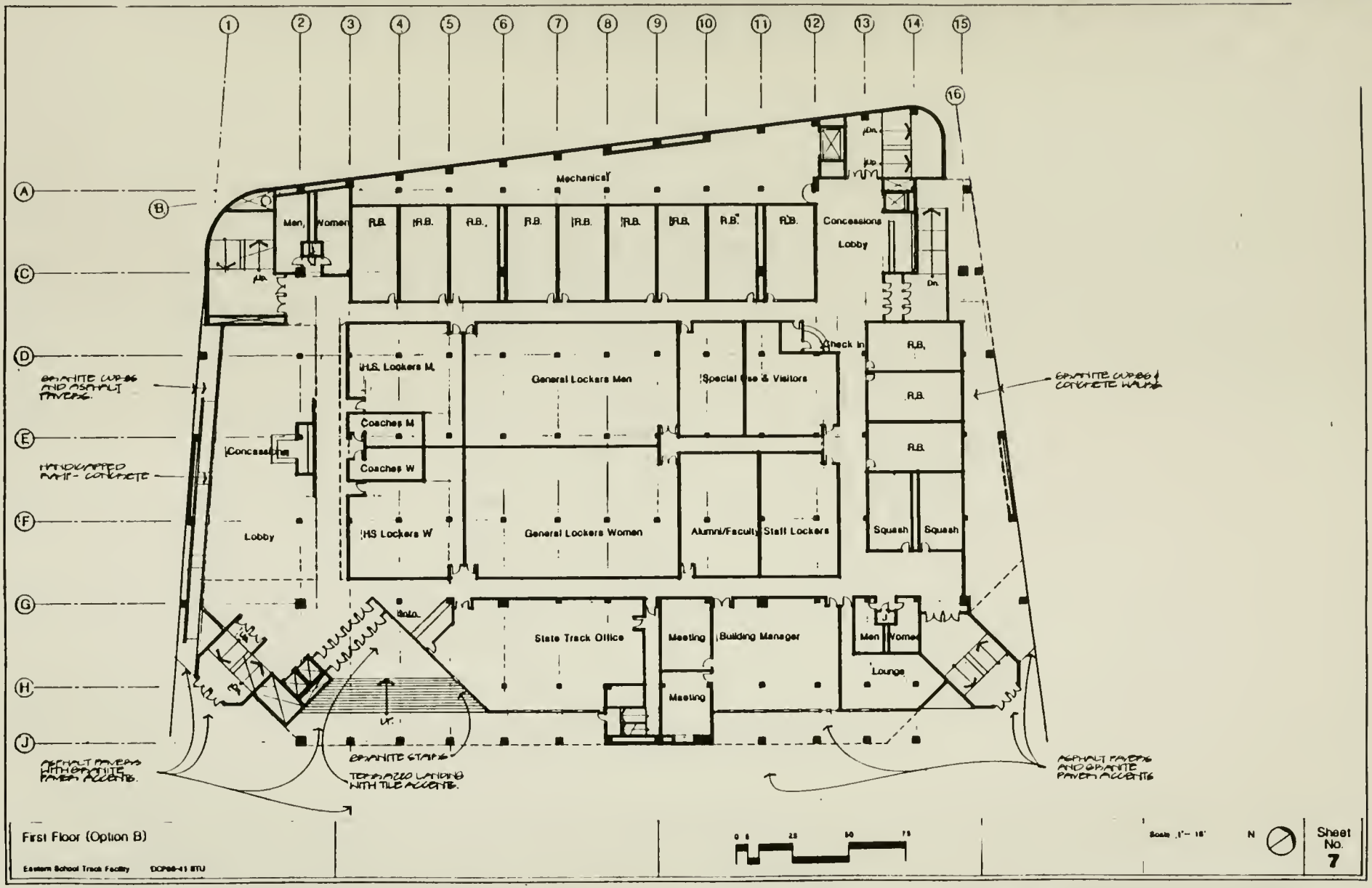
SITE PLAN

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



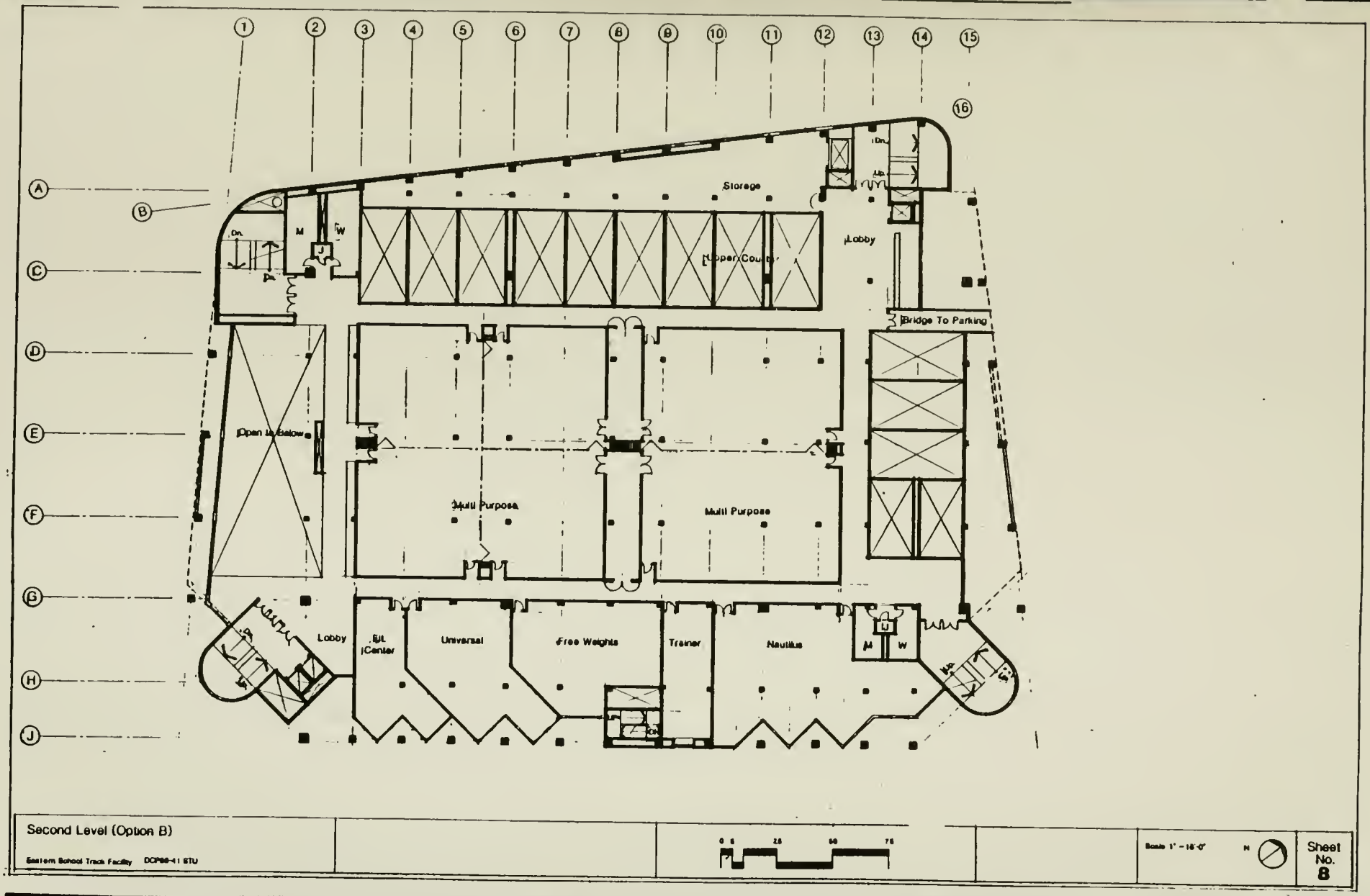
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



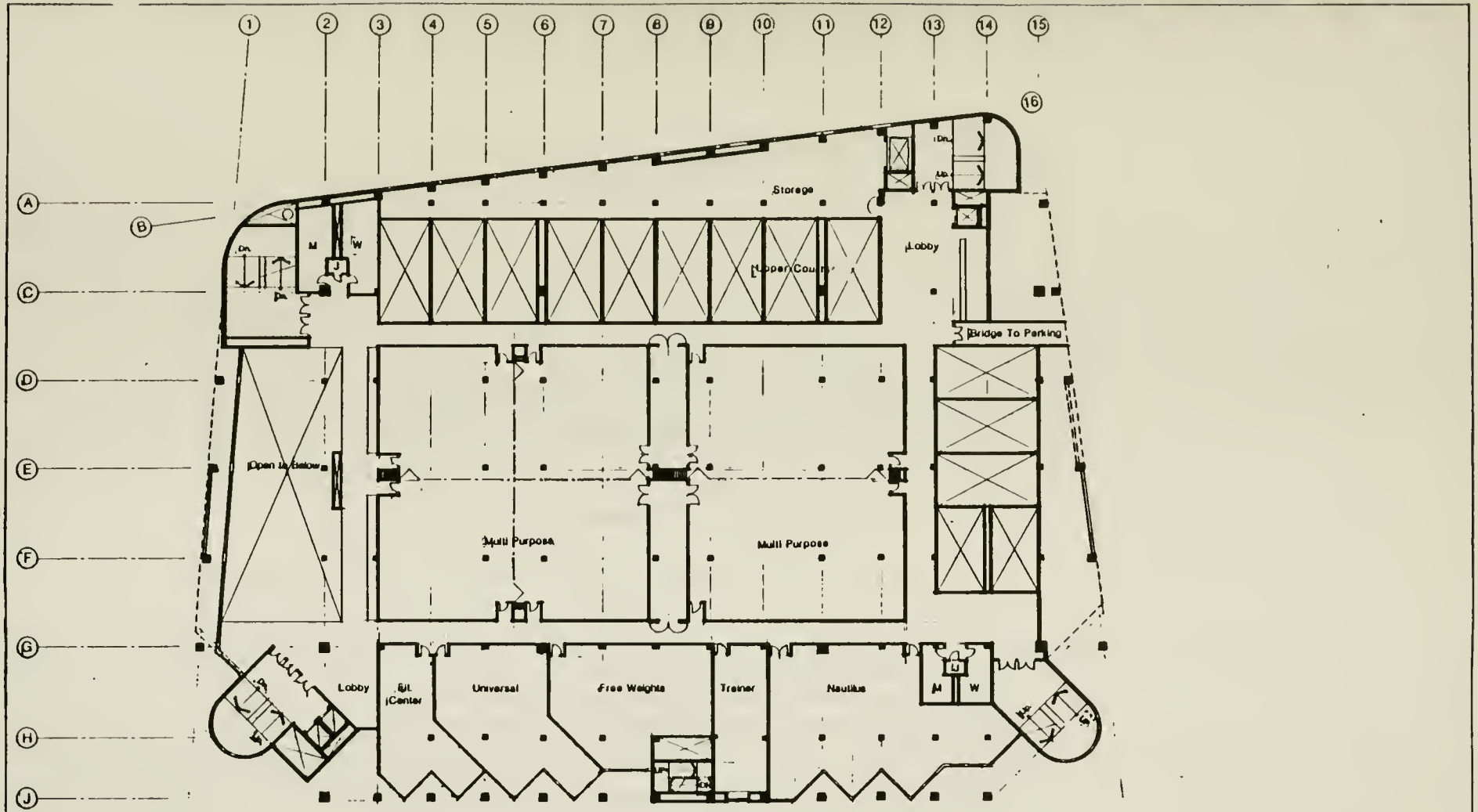
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



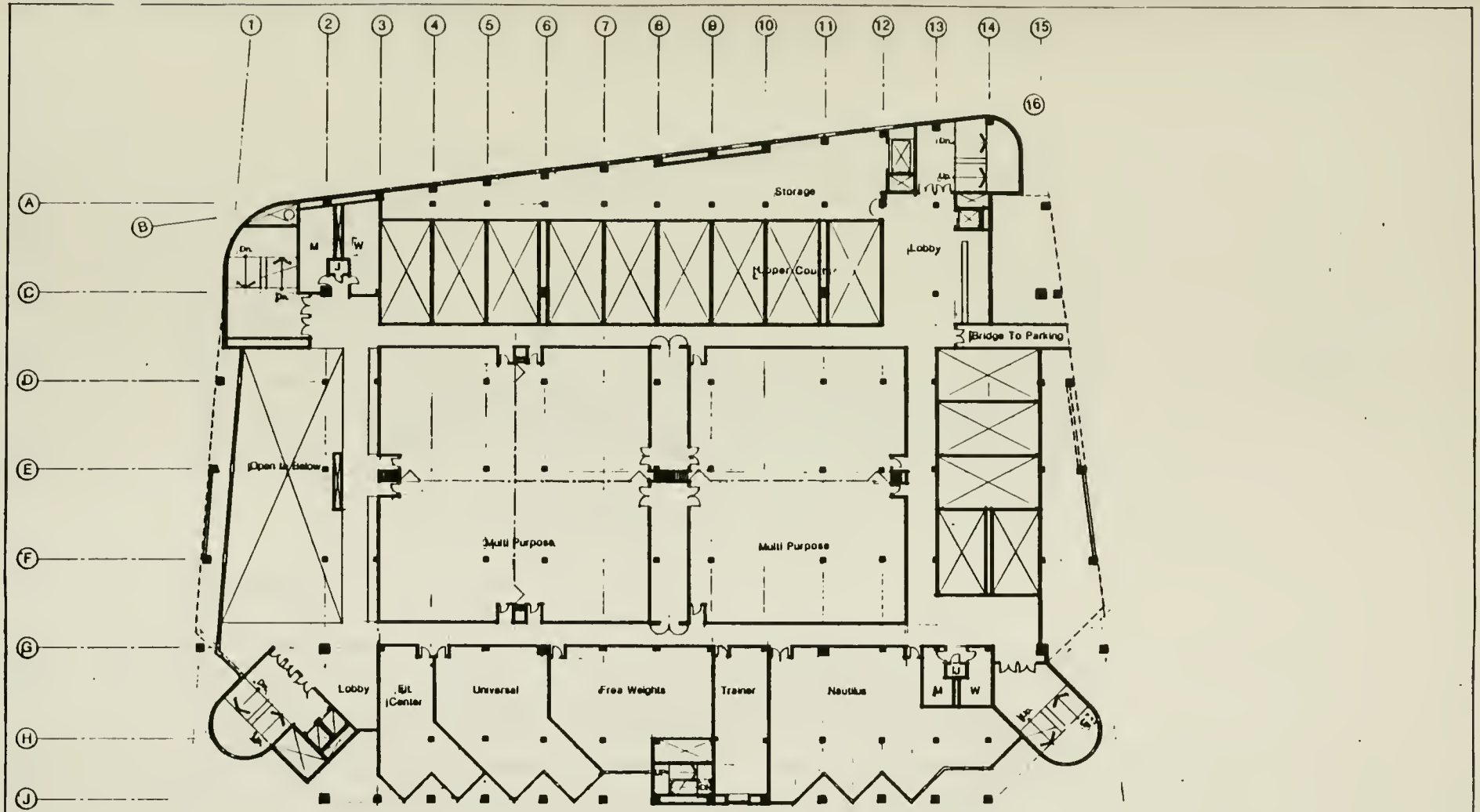
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



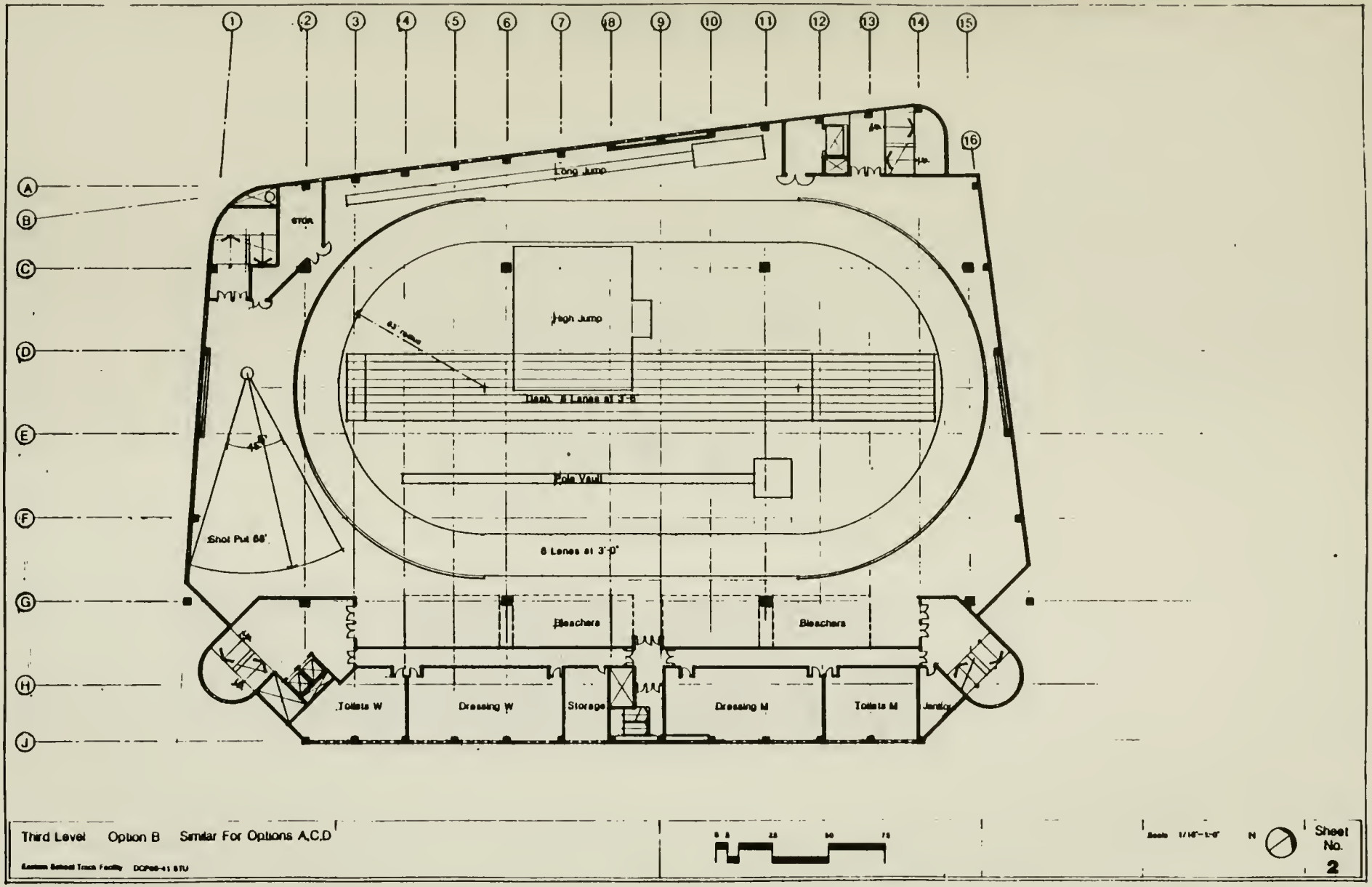
Second Level (Option B)

Eastern School Track Facility DCP86-41 STU

Sheet No. 8

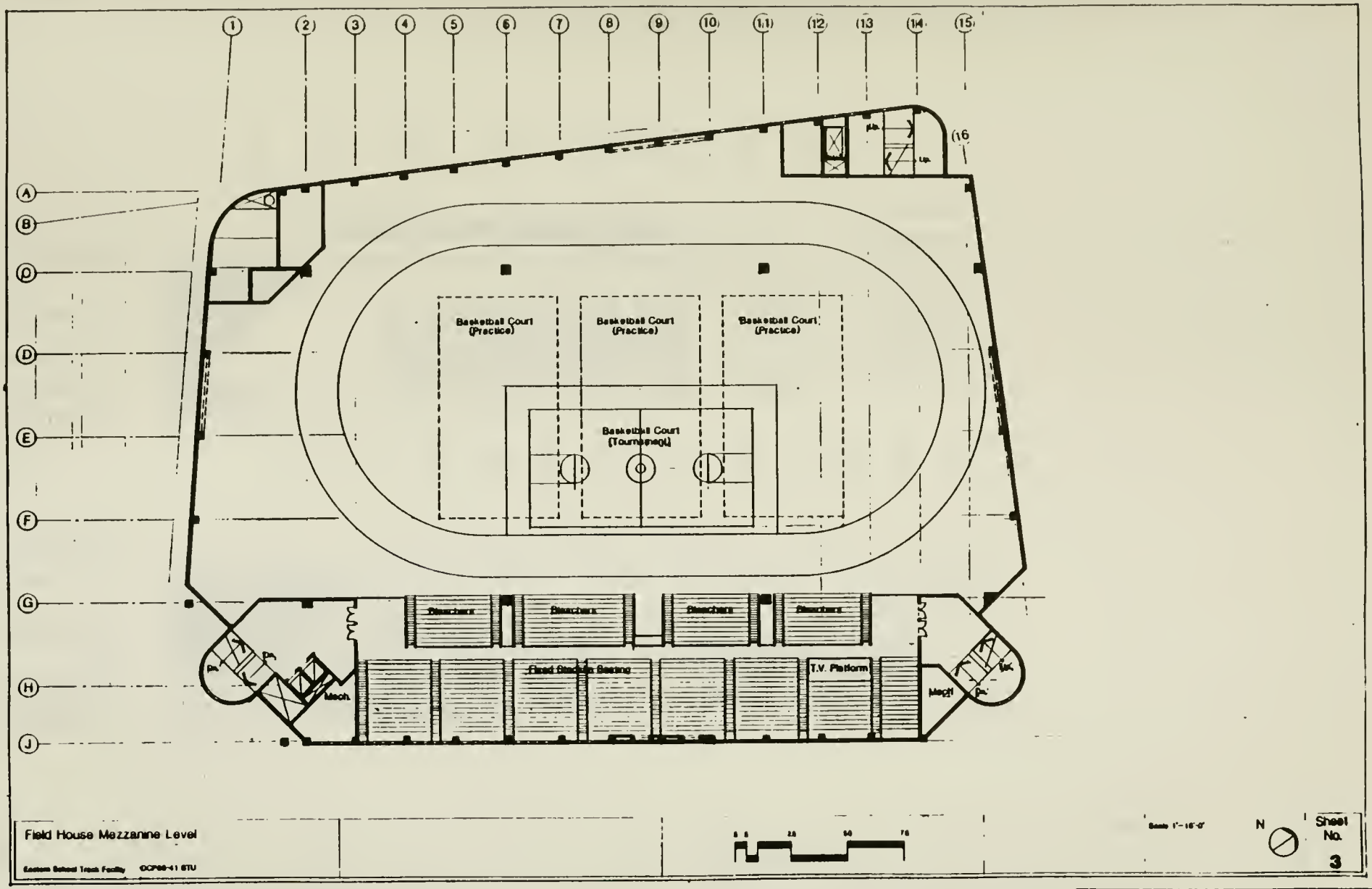
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



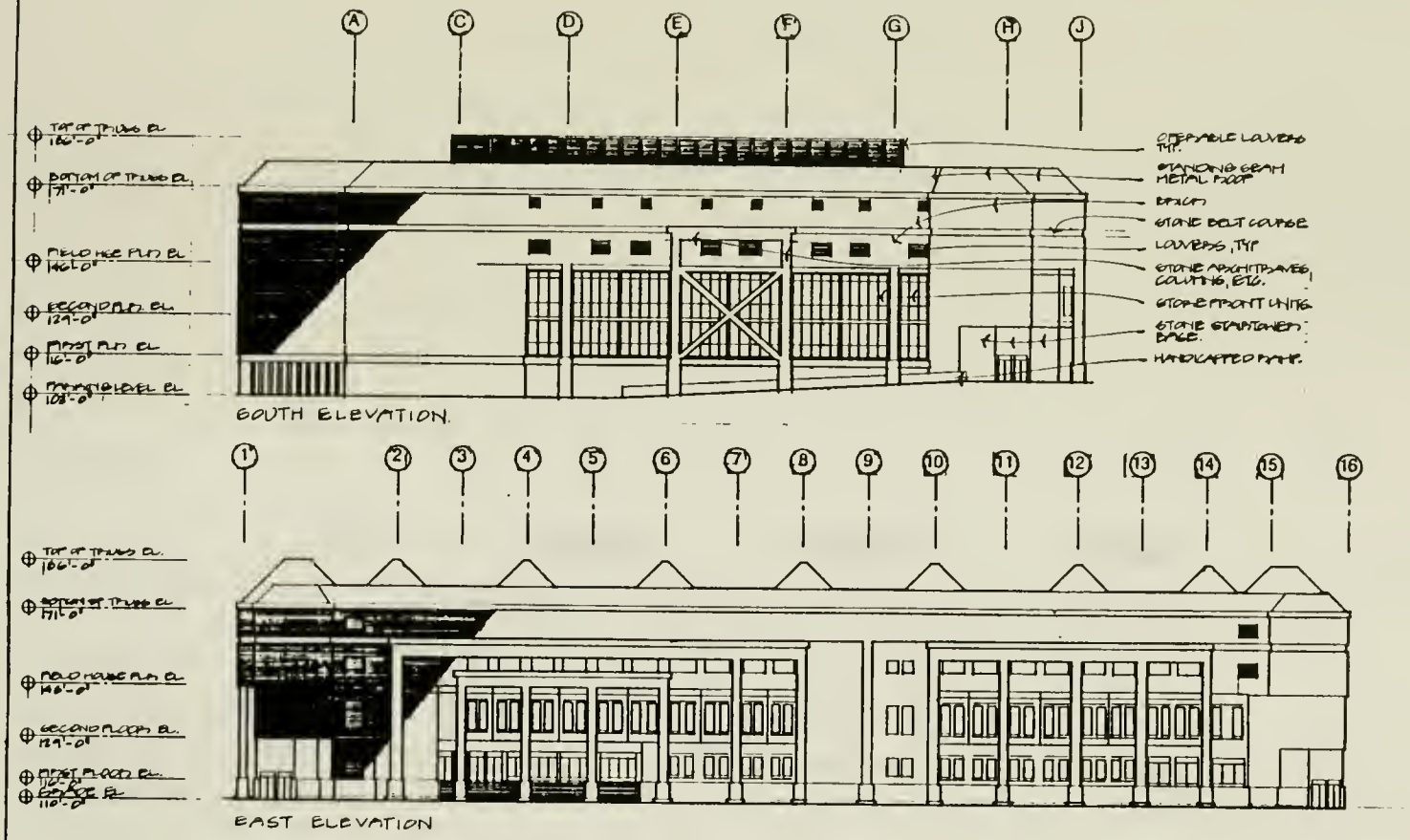
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



"ELEVATIONS" OPTION B

"Eastern School Track Facility DCP86-41 STU

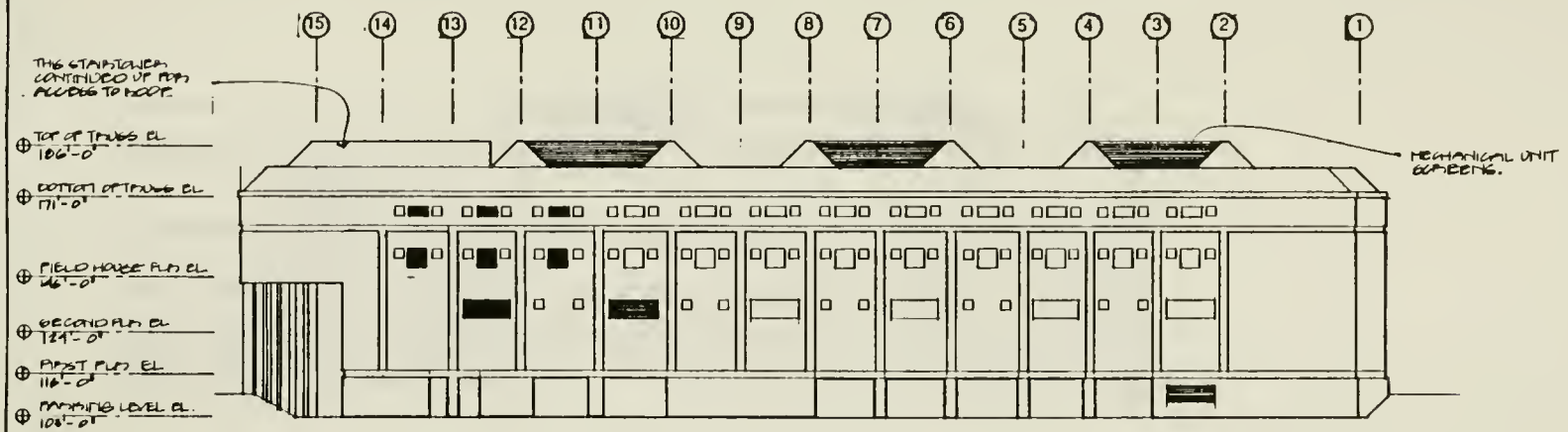
0 8 20 40 80

Scale 1" = 16'-0"

Sheet No. 9

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



WEST ELEVATION: OPTION B, SIMILAR OPTIONS A,C,D

Elevations (Option B, Similar Options A, C, D)

Eastern School Track Facility DCP86-41 STU

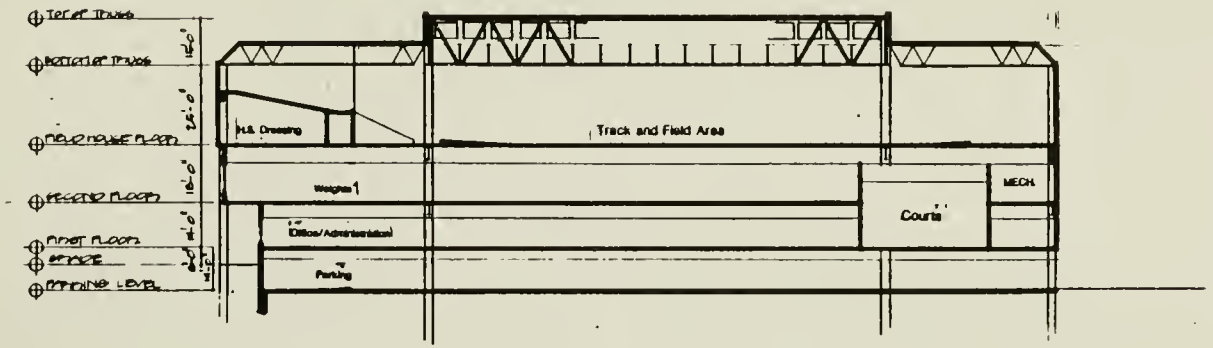
0 5 25 50 75

Scale: 1" = 16'-0"

Sheet No. 9A

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



Option B Elevations

Eastern School Track Facility DCP86-41 STU

Sheet No. 10

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87

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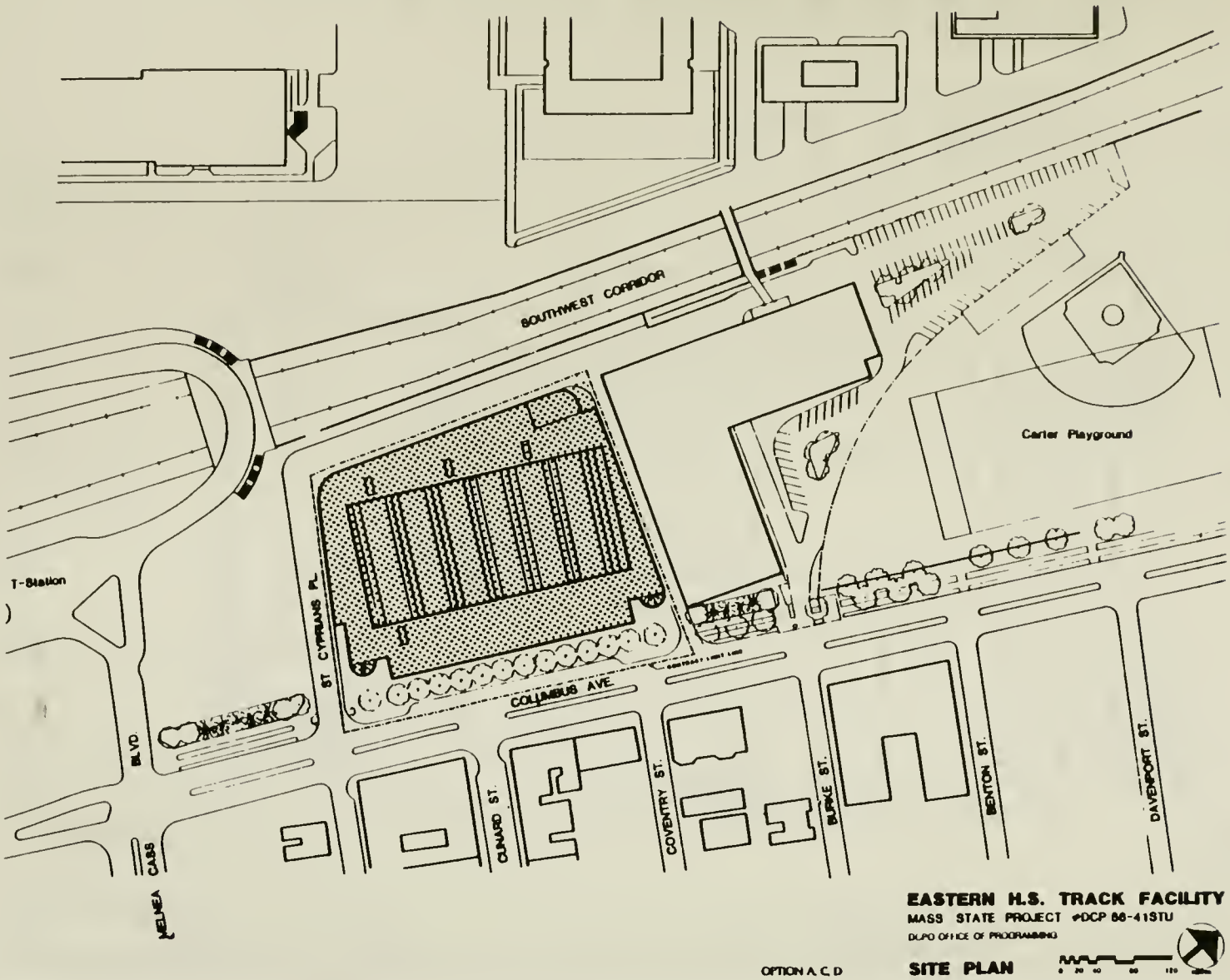
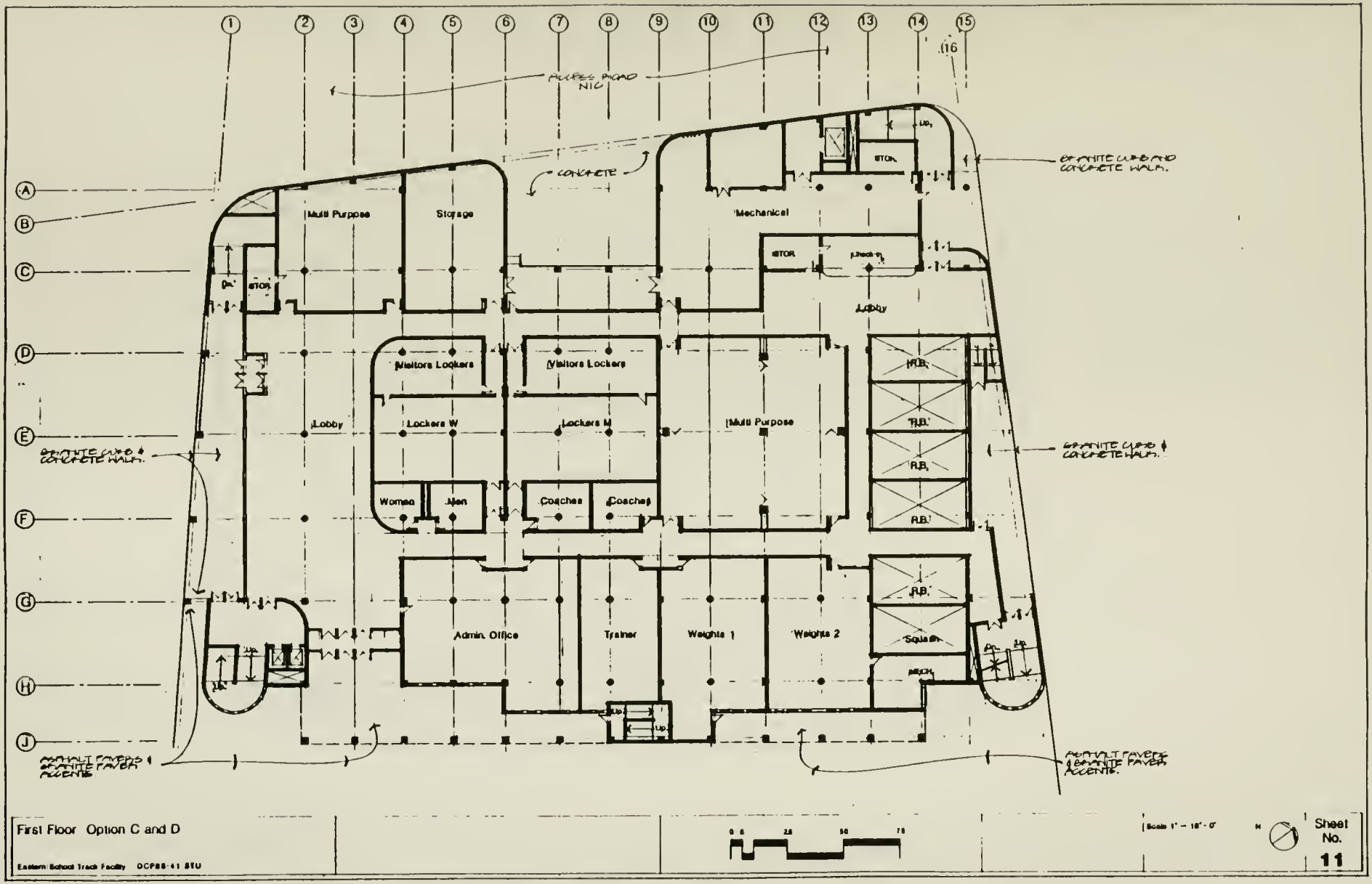


STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

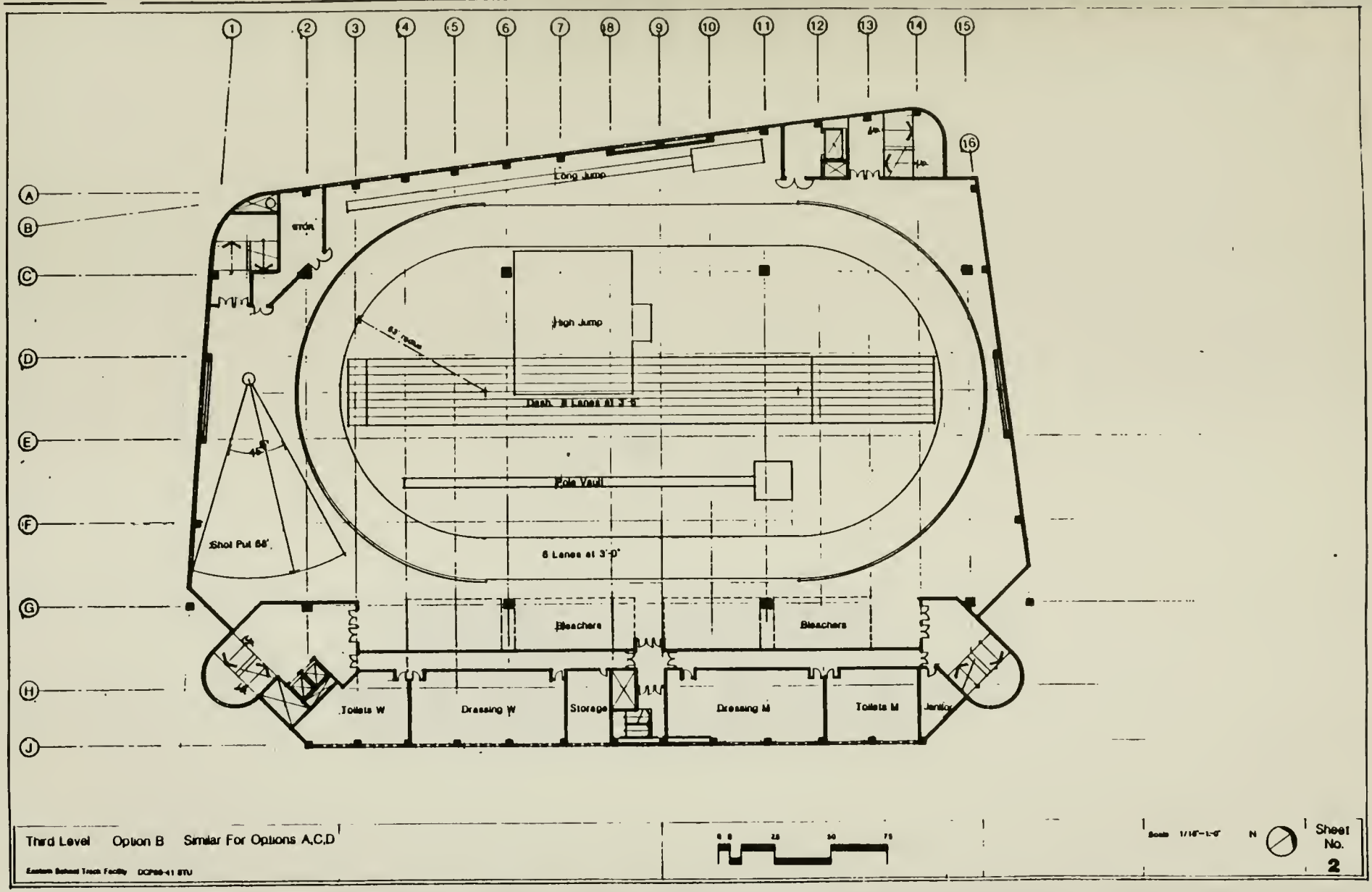
SITE PLAN

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



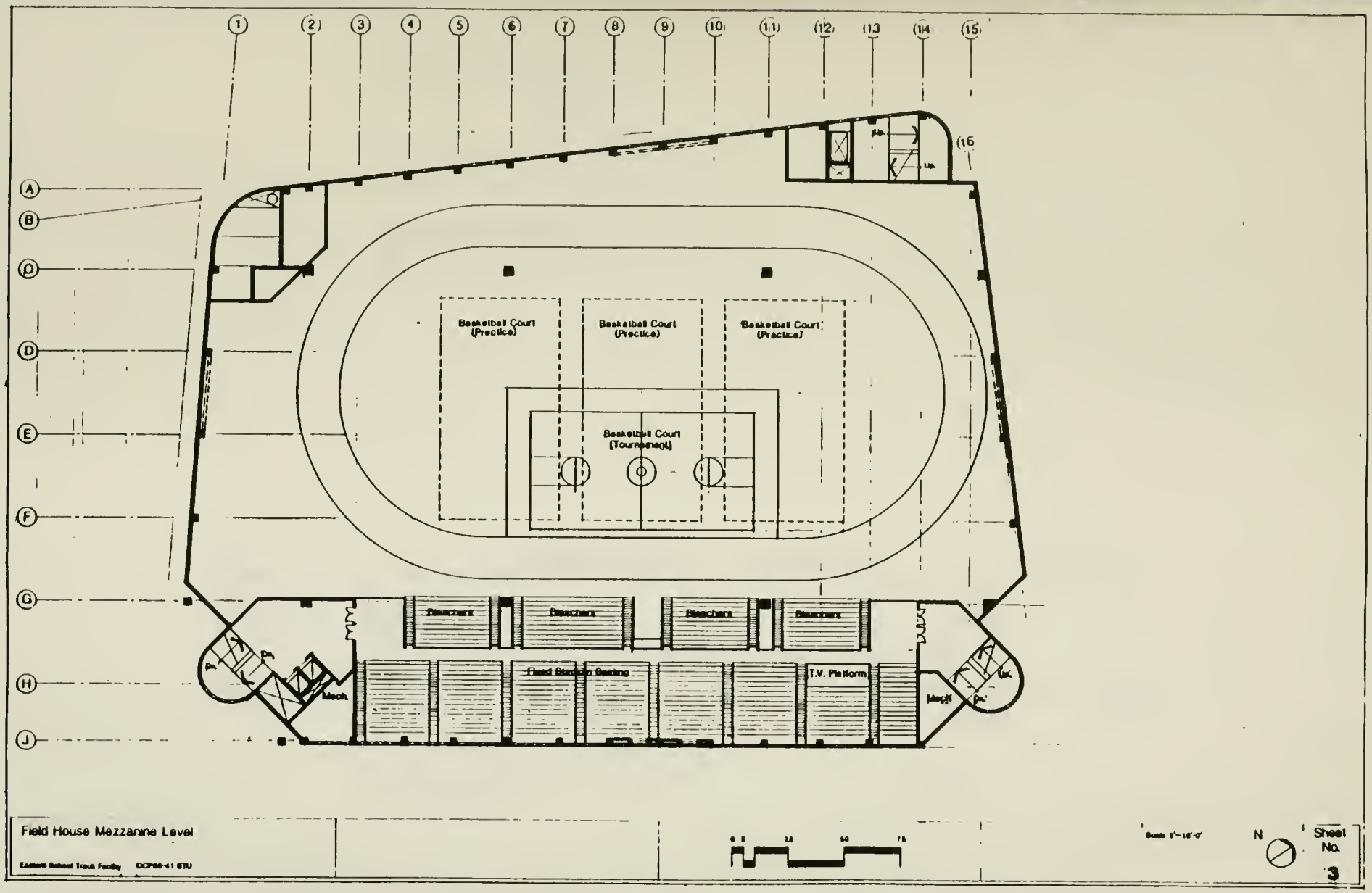
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



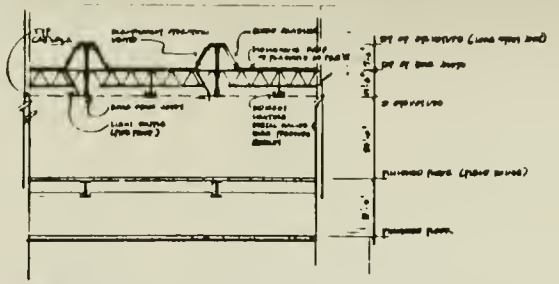
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87

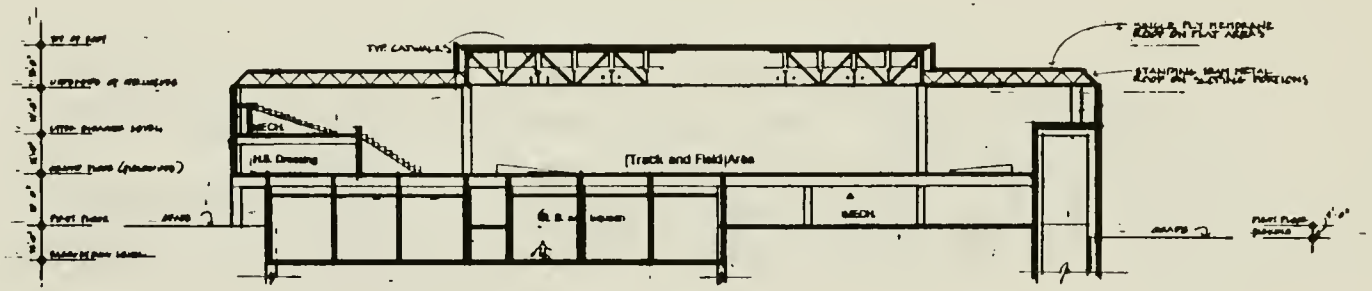


STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



SECTION THROUGH FIELDHOUSE LOOKING EAST

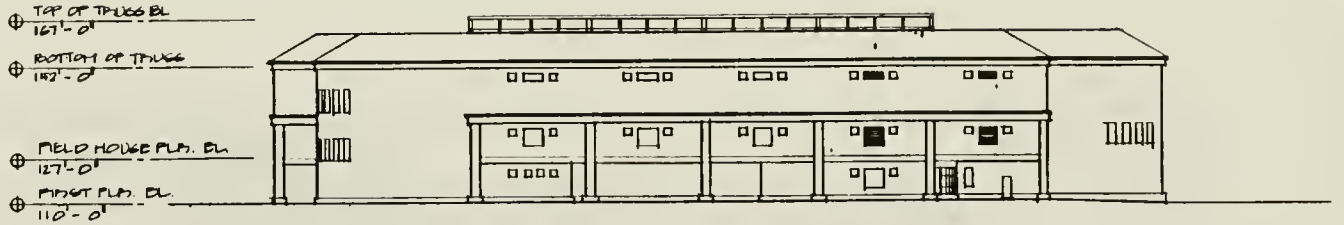


SECTION LOOKING SOUTH (OPTIONS A, C & D SIMILAR)

Section (Options A, C, D)					Sheet No. 4
Eastern School Track Facility DCP86-41 STU					

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87

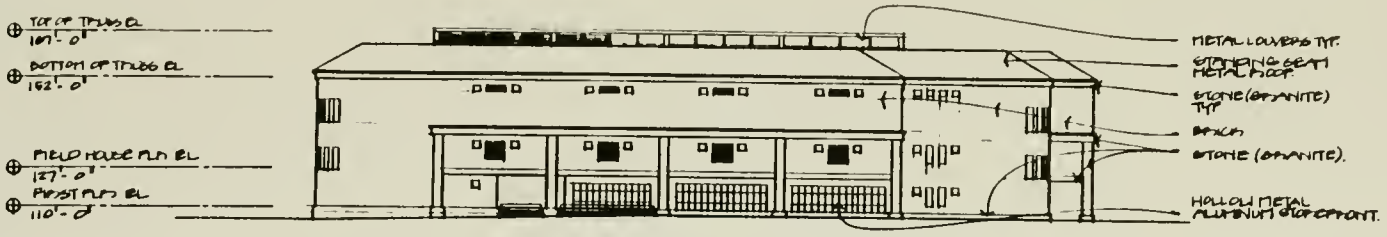


NORTH ELEVATION (OPTIONS C & D)

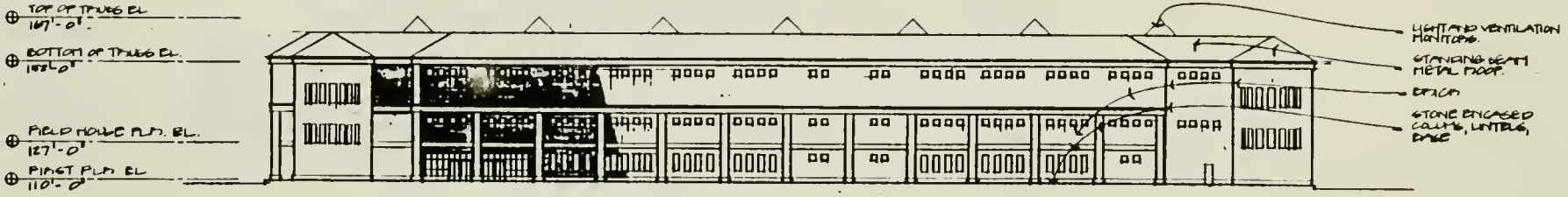
Elevations (Options C & D) Eastern School Track Facility DCP86-41 STU		0 5 25 50 75	Scale: 1" = 16'-0"	Sheet No. 5B

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



SOUTH ELEVATION (OPTION A, C, D).


TOP OF TRUSS EL 167'-0"
BOTTOM OF TRUSS EL 162'-0"
FIELD HOUSE FLR. EL. 127'-0"
FIRST FLR EL 110'-0"
LIGHTING VENTILATION MONITORS.
STANDING SEAM METAL ROOF.
BRICK
STONE ENCASED COLUMS, LINTELS, BASE

EAST ELEVATION (OPTIONS A, C, D)

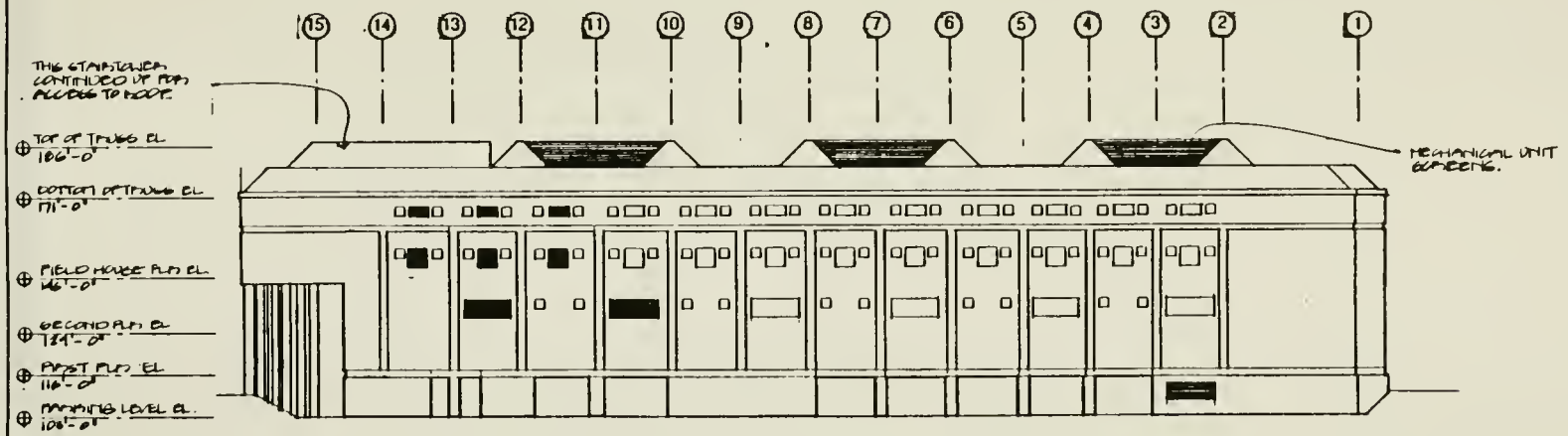
Elevations: (Options A,C, D)

Eastern School Track Facility DCP86-41 STU

Sheet No. 5

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



WEST ELEVATION: OPTION B, SIMILAR OPTIONS A,C,D

Elevations (Option B, Similar Options A, C, D)

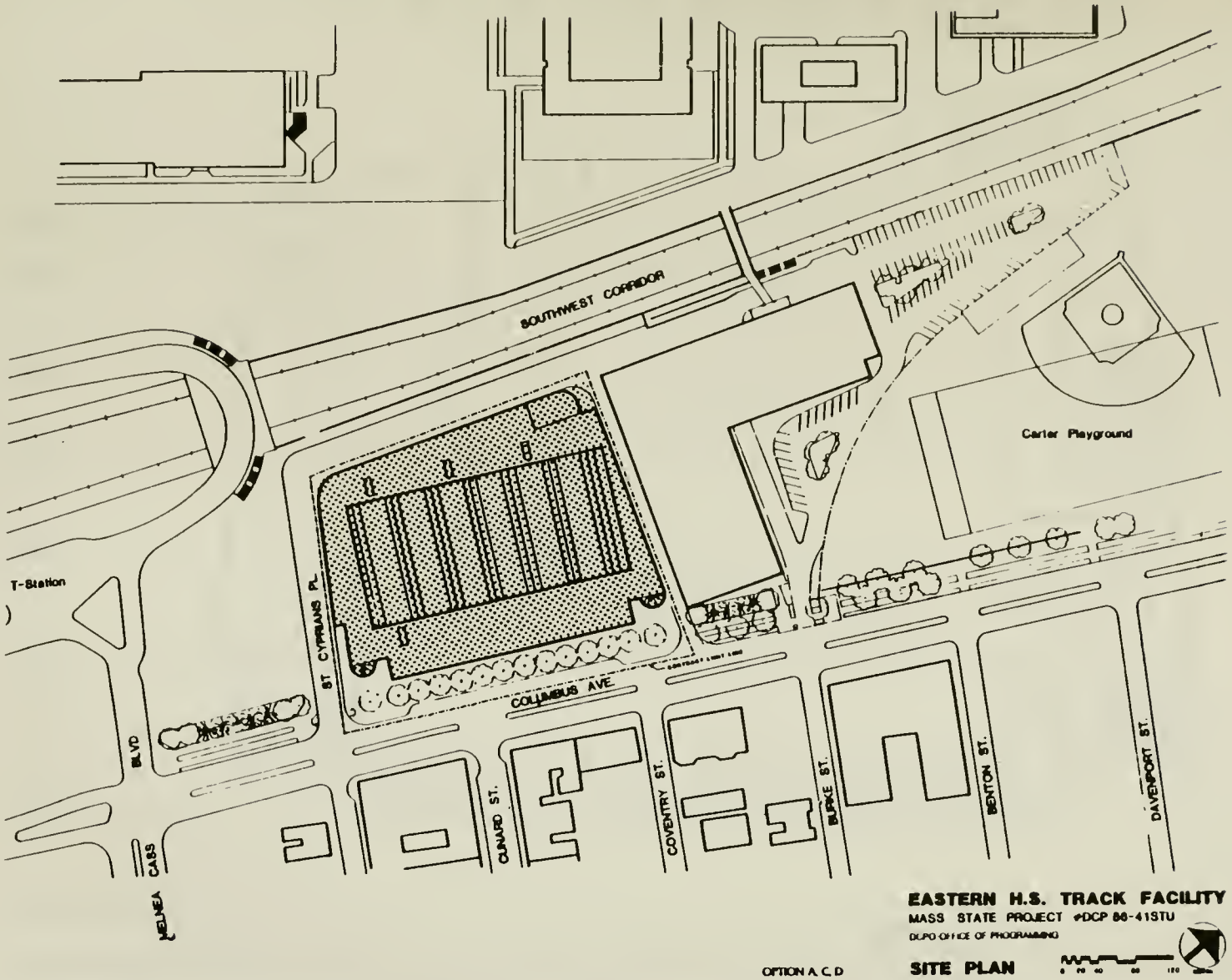
Eastern School Track Facility DCP86-41 STU

Sheet No. 9A

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

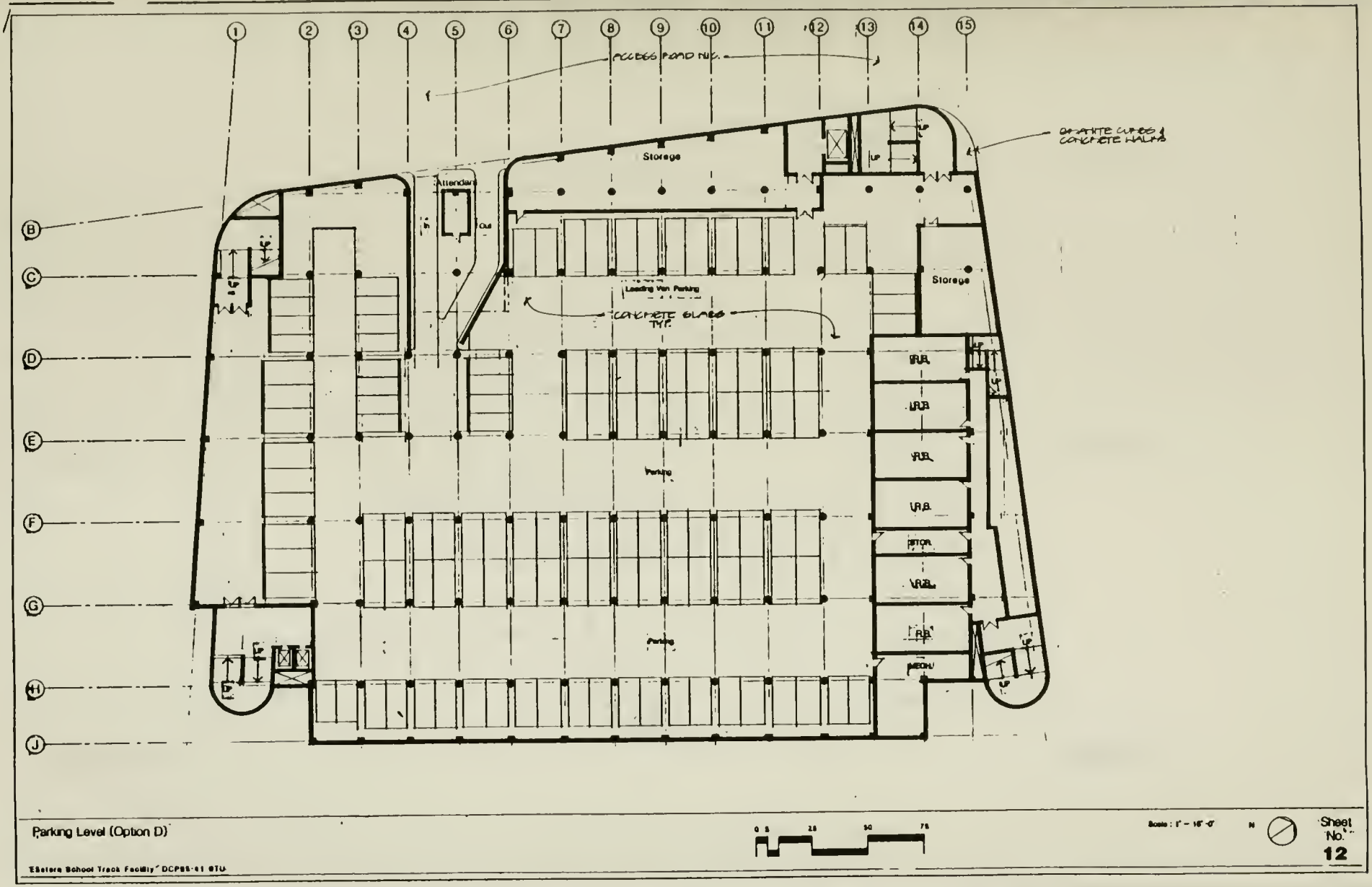
MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87

>>>CONCEPT D



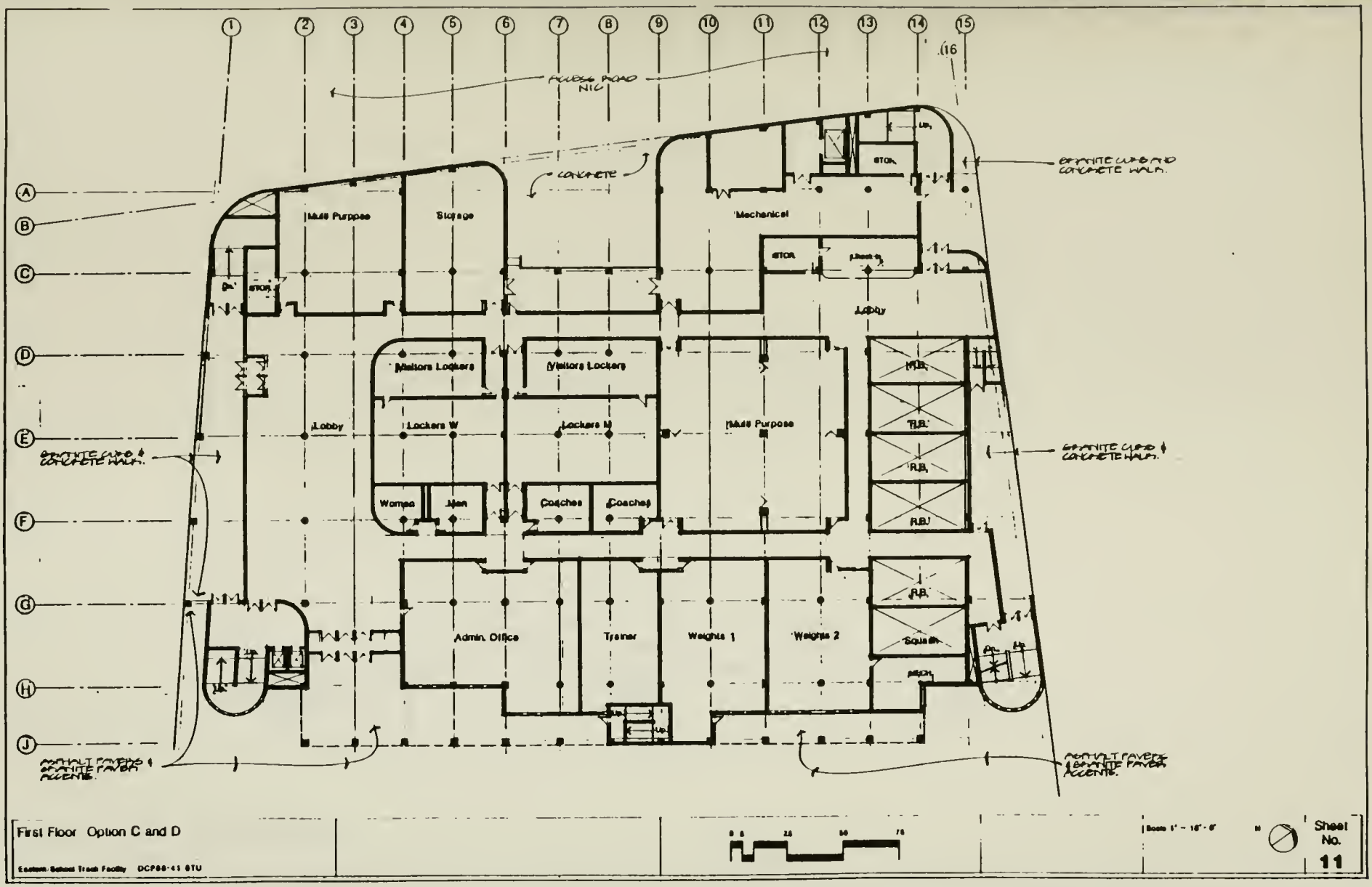
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

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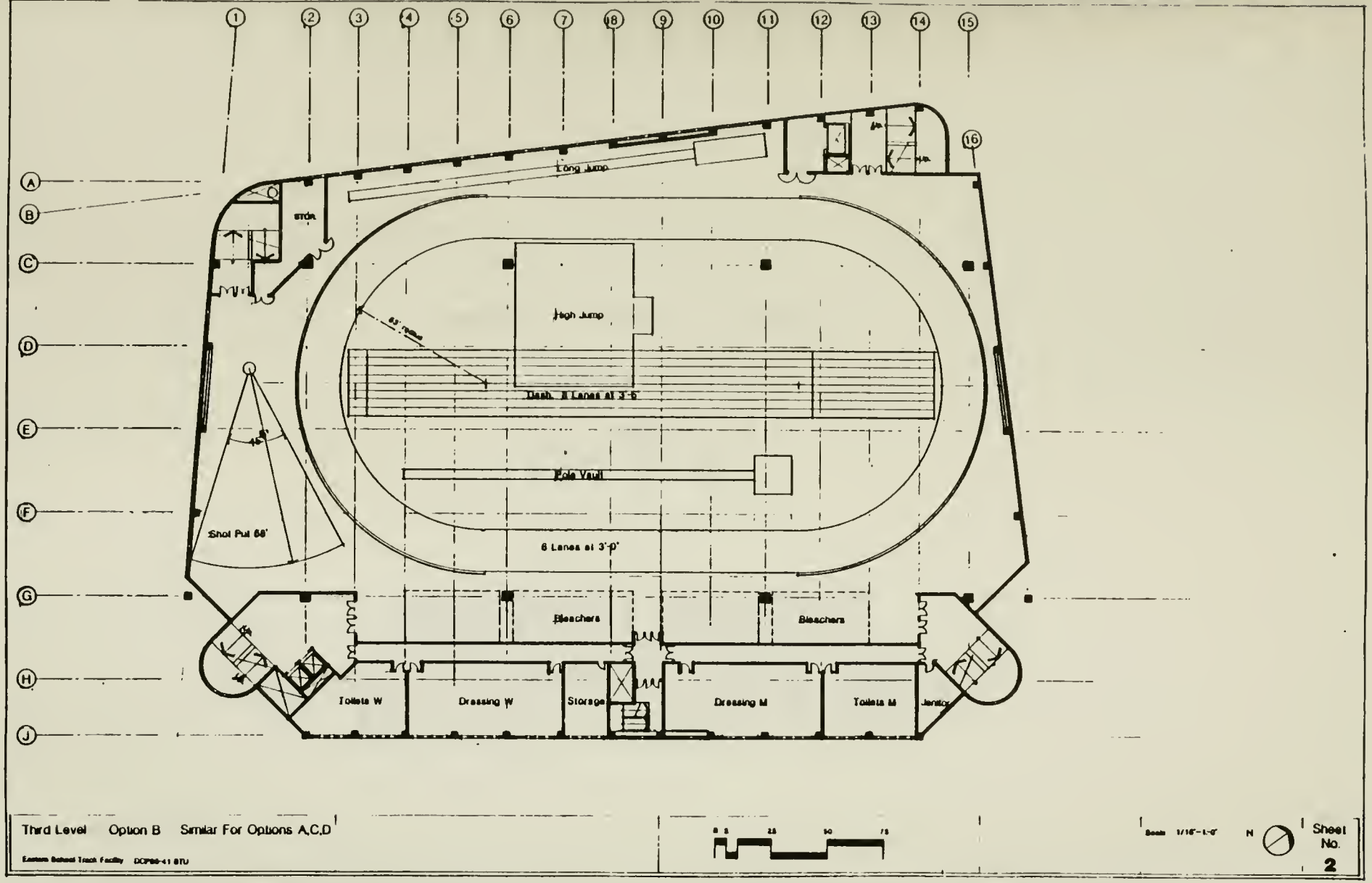

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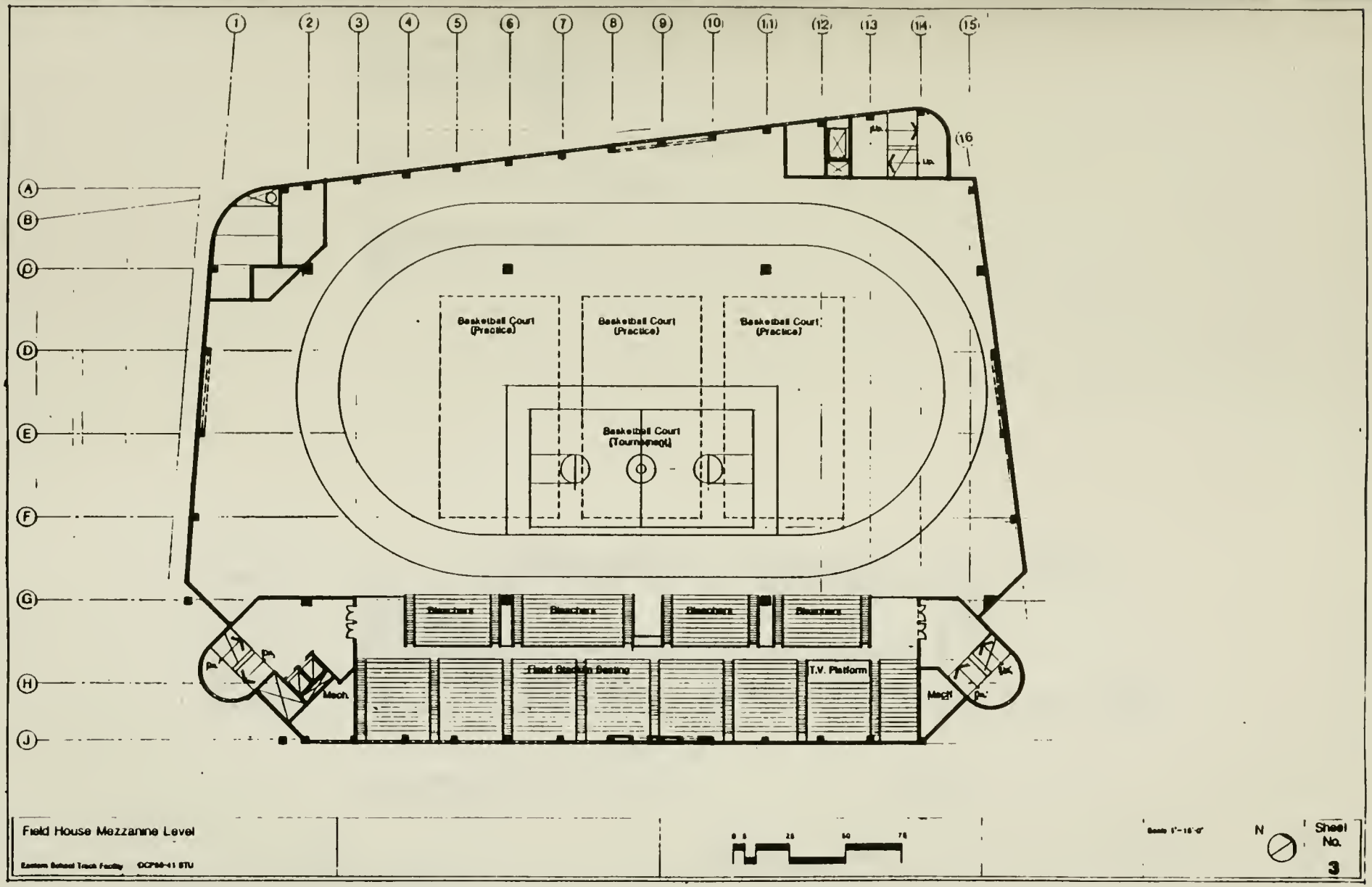
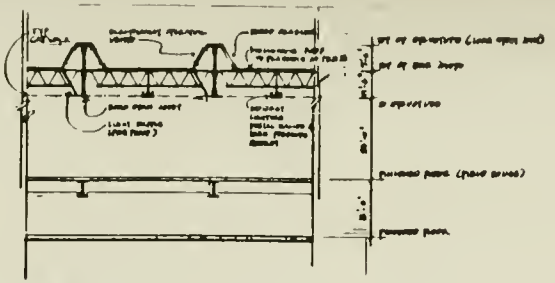
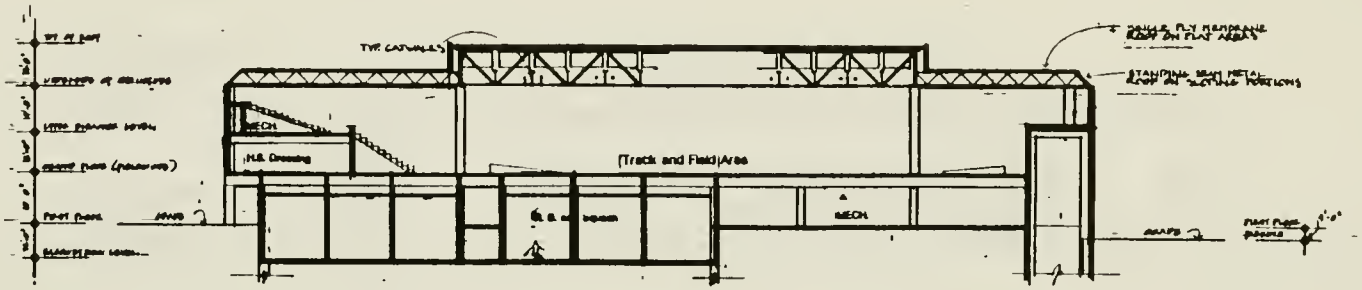


STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



SECTION THROUGH FIELDHOUSE LOOKING EAST

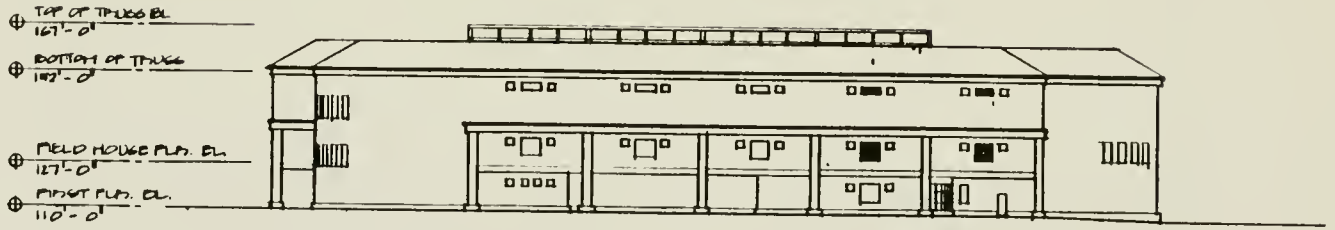


SECTION LOOKING SOUTH (OPTIONS A, C & D SIMILAR)

Section (Options A, C, D)					Sheet No. 4
Eastern School Track Facility DCP86-41 STU					

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



NORTH ELEVATION (OPTIONS C & D)

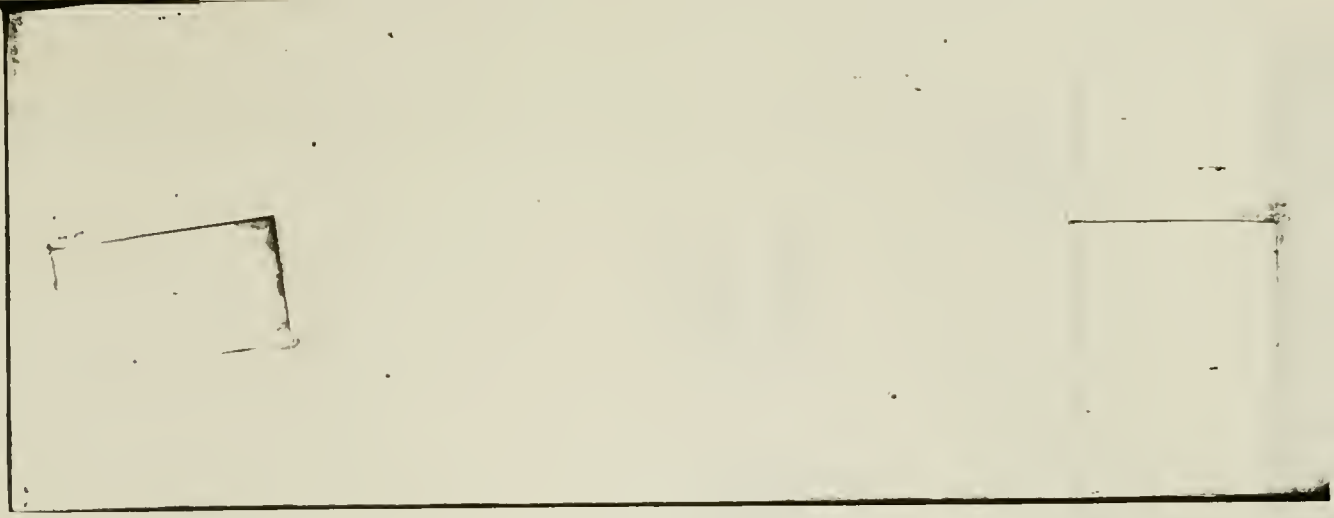
Elevations (Options C & D)

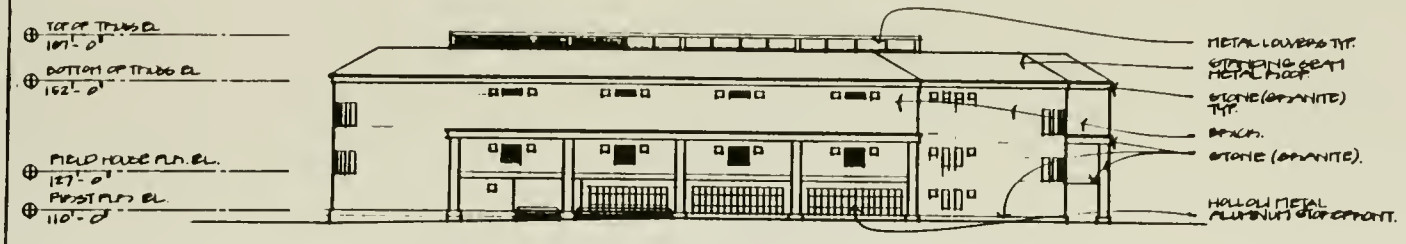
Eastern School Track Facility DCP86-41 STU

Sheet No. 5B

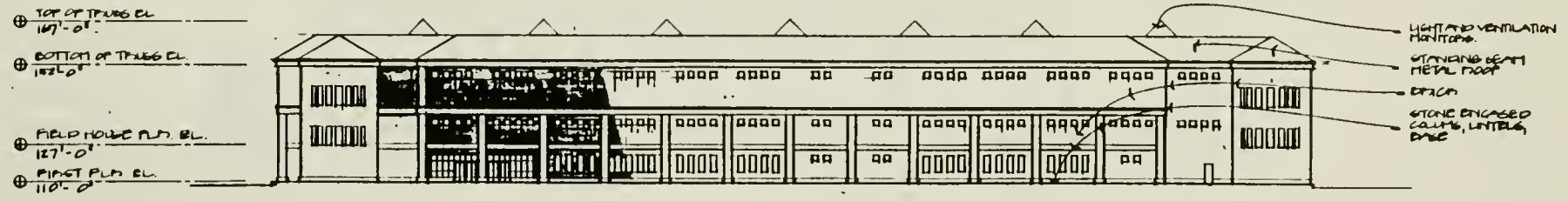
STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87





SOUTH ELEVATION (OPTION A, B, D).


TOP OF TRUSS EL 167'-0"
BOTTOM OF TRUSS EL 162'-0"
FIELD HOUSE FLR. EL. 127'-0"
FIRST FLR. EL. 110'-0"
LIGHT AND VENTILATION MONITORS.
STANDING SEAM METAL ROOF
BRICK
STONE ENCASED COLUMN, LINTELS, BASE

EAST ELEVATION (OPTIONS A, C, D)

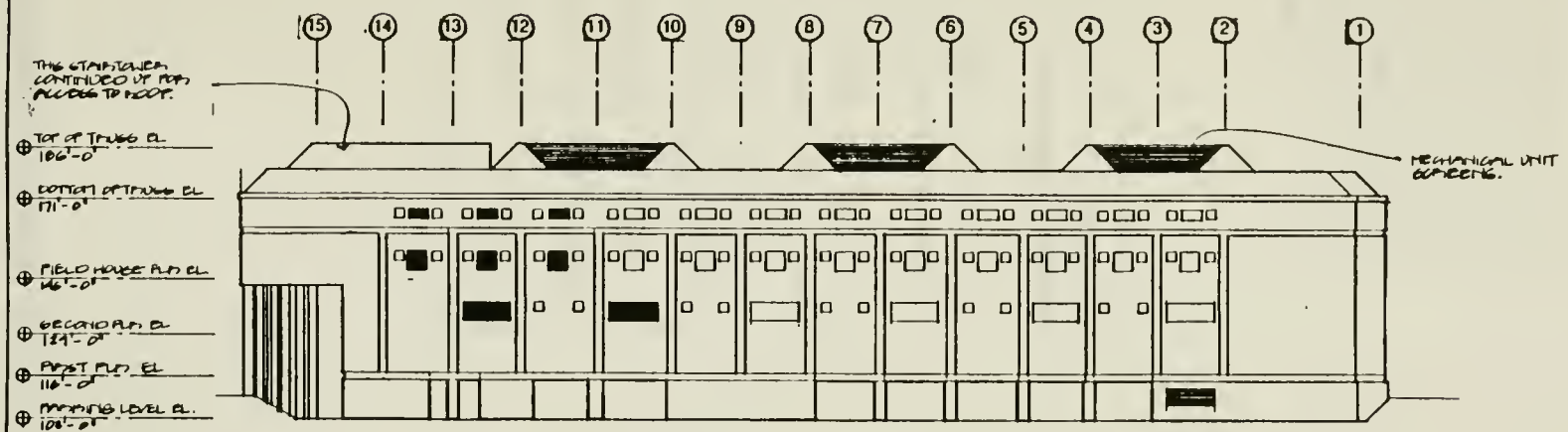
Elevations. (Options A,C, D)

Eastern School Track Facility DCP86-41 STU

Sheet No. 5

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87



WEST ELEVATION: OPTION B, SIMILAR OPTIONS A,C,D

Elevations (Option B, Similar Options A, C, D)

Sheet No. 9A

STUDY FOR EASTERN SCHOOL TRACK FACILITY.....

MASS. STATE PROJECT NO.DCP86-41STU .....DCPO OFFICE OF PROGRAMMING 5.29.87

F. PRELIMINARY COST ESTIMATES

Preliminary cost estimates have been prepared for each of the schematic alternatives. These are summarized below.

The total project cost, summarized below, is higher than the estimated construction cost. Among the factors which make up the difference are: designer's fees, inflation, legally required art work and post-occupancy evaluations, allowances for environmental impact reviews, furnishings and equipment, advertising and blueprinting, construction contingencies, and reimbursable and construction administration expenses. Inflation assumptions call for conventional project management methods and for availability of design and construction funding in FY 1988.

Est. No.	Schem. Alt.	TPC.	TPC/s.f.
1	A	$32,167,000	$179
2	B	$49,274,000	$154
3	B/add altern.	$63,178,000	$198
4	C	$32,662,000	$180
5	D	$39,300,000	$154

Appendices

STUDY FOR AN EASTERN SCHOOL TRACK FACILITY

IV

A Executive Summary,
Site Assessment Report

B. Track Coaches Survey,
Forms and Analysis

C. Northeastern Program Request

A. Executive Summary, Site Assessment Report

by Boston Survey Consultants

Executive Summary

The proposed site for a high school field and track facility consists of a parking area which is currently owned by Northeastern University. The proposed site is located on the north corner of the intersection of Columbus Avenue and Saint Cyprians Place in Boston, Massachusetts.

This program consists of four possible options for a high school field and track facility. A brief description of each option follows:

* Option A

A partial floor of programmed recreational activities plus a field house and on grade parking.

* Option B

Two levels of programmed recreational activities, field house and one level of structured parking.

* Option C

One full level of programmed recreational activities plus a field house.

* Option D

One full level of programmed recreational activities, a field house plus one full level of structured parking.

The purpose of this study is to investigate the structural and foundation options for the proposed program as well as the environmental issues

relative to the presence of oil and hazardous materials. This work will include outline specifications and estimated costs for each item utilizing a systems approach.

BSC engaged the services of Madden Asphalt Corp. to perform test pits at the site on May 3, 1987. Water and soil samples were taken from the test pits and analyzed by Clean Harbors and Revet Laboratories located in Braintree and Worcester MA. respectively. The samples were taken to two laboratories so that the results would be available for this report. The samples were tested for the following parameters by Revet Laboratories: the 37 EPA Volatile Organic (VOC) Priority Pollutants (Method 624); the 13 Priority Pollutant Metals (Dissolved, Methods 200, 200.7, 204.2, 206.2, 239.2, 245.1, 245.5, and 279.2); and the 28 PCB/Pesticides (Method 608). The samples were also analyzed by Clean Harbors for Acid/Base Neutral Extractables (ABN) (Method 625). The results are summarized in Table 1.

Based upon our inspection of and research into the site and site vicinity, test pits and laboratory analyses, BSC Engineering is of the opinion, that to the best of its professional knowledge, information and belief at the time of the inspection, evidence was observed which would indicate that oil or hazardous material has been released at the site.

The lab results for VOAs indicated the presence of Toluene (0.011 ppm) in sample #7. However, 0.001 ppm of Toluene was found in a Lab Blank. It is implied that the Toluene found in the sample may be a result of exterior contamination or lab test procedures.

A low concentration of PCBs were also found. They are deliniated in Table 1, although the total PCBs for any one sample was less than 50 ppm.

The dissolved metals were all below the concentration limits for potable water. The bulk metals in some of the soil samples showed elevated concentrations of lead and arsenic above normal background. However, since the water quality based on dissolved metals is quite good, the soil does not appear to be leaching significant amounts of metals into the water.

BSC has also engaged the services of Geotechnical Engineers Inc., from Winchester, MA and Veitas and Veitas, from Braintree, MA for geotechnical and structural engineering tasks respectively.

The recommendations for foundation design and cost estimates were developed on the basis of subsurface conditions found in borings that were previously performed in areas adjacent to the present site and at some locations on the site. Subsurface data relevant to foundation design were also obtained from test pits recently performed for the environmental assessment of the site. However, no new borings were performed during this phase of the project, and thus the recommendations presented for foundation design should be considered to be of a preliminary nature since they are based on limited data. These recommendations may change depending on the results of future subsurface investigation and analyses.

The selection of foundation types for the various options depend on the differential settlements that will occur between the heavily loaded columns that carry the long span roof loads and the typical columns which carry only the floor loads. Differential settlements are estimated to be on the order of 1 to 3 inches or more if shallow foundations are employed. We recommend employing shallow footings structurally connected by grade beams in order to reduce the effects of differential settlements. For the Option B Add Alternate, a similar foundation system may be employed, but pile foundations could be necessary because of high column loads. Thus a contingency for possibly having to found the Option B Add Alternate structure on piles is included in our cost estimate.

All options require the excavation and removal of fill. Significant replacement of the fill is required in Options A and C. Excavation support using systems, such as H-piles and the excavation. Dewatering will have to be performed for footing excavations.

In the preliminary design the following requirements were considered. Roof headroom 26'-0". Provide maximum clear spans in track area. Roof to have natural lighting and ventilating louvers. Floor live loads 100 psf. The structure shall have a 2 hour fire rating. Other requirements as per Massachusetts Building Code.

B. Track Coaches Survey, Forms and Analysis

DCPO **School Track Program Questionnaire**

DESCRIPTION OF STUDY

The Division of Capital Planning and Operations (DCPO), the state agency responsible for the design and construction of, and improvement to, all state-owned buildings, is undertaking a study to assess the feasibility of an indoor track facility for use by the public.

The following questionnaire is intended to assess your school's potential use of this facility. We would appreciate your effort in filling out this questionnaire. Your input is very important because it will be providing us with crucial information that will help determine the size of this facility.

Please return the completed questionnaire to :

DCPO - Office of Programming
One Ashburton Place, Room 1610
Boston, MA 02108

Attention: Track Study

We appreciate your cooperation in this evaluation.
Please complete and return to the above address by Friday, May 15th.

GENERAL INFORMATION

Name of high school: _____

Address: _____

_____

Your name (person filling out questionnaire), title, and phone #: _____

_____

Number of students in high school: _____

Percentage (%) of students participating in extra-curricular athletics: _____

CURRENT PROGRAM

Which of the following track sports do you offer in your athletic program (if offered, how many students participate):

Event	No. of People	Event	No. of People
Competition Dash	.....	Shotput	.....
High Jump	.....	Long Jump	.....
Pole Vault	.....	Run/Relay	.....
Other Track Sports	.....		

Please list all of the indoor track leagues you belong to:

.....

.....

.....

.....

How many meets do you compete in one season (please include a schedule for this past year)?

.....

.....

.....

Which of the above meets do you host?

.....

.....

Where do you hold track practice during the winter?

.....

How often do you have outside(not high school) media coverage at your track meets?

Television .....

Newspapers .....

Radio .....

Other .....

FACILITIES

Do you have an indoor track facility? Yes..... No .....

Which Indoor facility(s) do you use? .....

.....

a) What is the total size in square feet of the indoor track facility you use?

.....

b) Which of the following events are provided for in your indoor facility?

Competition Dash	.....	Shotput	.....
High Jump	.....	Long Jump	.....
Pole Vault	.....	Run/Relay	.....

c) Is the track banked or flat?

.....

d) What is the radius of the track?

.....

e) How many lanes does the track have and what is the width of each lane?

.....

f) What level of competition is the track qualified for?

high school ..... NCAA ..... IAAF .....

g) Do you have provisions for spectators in your indoor track facility? yes ..... no .....
If so, for how many spectators? .....

How many times each year are all the seats filled for track events? .....

How many spectators usually attend your events? .....

h) Do you provide shower facilities for your athletes in this building? yes ..... no .....
For visiting teams? yes ..... no .....

Do you provide separate lockers for coaches and officials? yes ..... no .....

STATE TRACK

If a new public indoor track was available in the City of Boston for state high school use, would you use it for:

a) team practice yes ..... no ..... preferred practice hours: ..... preferred events: .....

b) competitions yes ..... no .....
(name possible meets) .....

c) recreation yes ..... no .....

d) other .....

If you were to use the above track, what reasons would be most important:
(scheduling problems with your facility, no indoor track, quality of facility,...)

.....

.....

If not, why? (too far away, schedule conflicts, etc.)

.....

.....

Which of the following items would most increase the usefulness of the track?

a) Banked lanes or flat track .....

b) Practice dash track or extra spectator seating .....

c) Full lockers or a dressing room with no lockers .....

In your opinion, is is necessary for the shotput area to be on the same field with the track or could it be on another floor?

.....

.....

Please estimate the maximum number of spectators who would attend a meet that is held in Boston?

.....

HIGH SCHOOL TRACK QUESTIONNAIRE RESPONSE SUMMARY

PROGRAM INFORMATION

OF STUDENTS

range = 250 - 4,500 students
mean = 1,218 students
median = 955 students

% PARTICIPATION IN EXTRA-CURRICULAR ATHLETICS

range = 10% - 75%
mean = 40%
median = 35%

INDOOR TRACK PROGRAM - AVERAGE # OF STUDENT PARTICIPATING IN TRACK EVENTS

event	% of schools with event in program	average # of partic.
competition dash	100%	14
high jump	96%	6
pole vault	37%	5
shotput	100%	8
long jump	83%	9
run/relay	100%	25

LEAGUE INFORMATION

87% of the school that responded belong to a league, less than 5% of the schools that responded belong to more than one league.

18 leagues were identified in the survey:

Bay State	Dual County	Merrimack	South Coast
Boston City	Greater Boston	Middlesex	Southeastern
Boston Public	Greater Lynn	Northeastern	Surburban
Cape Ann	Inter-Central	Old Colony	Tri-County
Central Mass.			Tri-Valley

HIGH SCHOOL TRACK QUESTIONNAIRE RESPONSE SUMMARY

PROGRAM INFORMATION (continued)

OF MEETS/SEASON

average # of meets/season = 12 meets

% OF SCHOOLS THAT HOST MEETS

18% of the schools host meets

FACILITY USE INFORMATION

18% of the schools have indoor tracks
24% of the schools use gyms to practice in the winter
34% of the schools rent indoor tracks to practice and/or hold meets in
no school rents a gyms to practice indoor track

many schools stated they practiced either outdoors (47%) or in their school corridors (24%) during the winter.

MEDIA (other than high school) COVERAGE INFORMATION

13% of the schools stated that they had some television coverage
68 % of the schools stated that they had some newspaper coverage
6% of the schools stated they had some radio coverage

INDOOR TRACK FACILITY (USED BY SCHOOL) INFORMATION

SIZE OF FACILITY USED

there was a wide range of facility sizes identified by the length of the track

range = 22 laps/mile for a track with no qualifications
11 laps/mile for a track with high school comp. qualifications
8 laps/mile for a track with NCAA qualifications
4 laps/mile for a track with IAAF qualifications

most schools use high school tracks (11 laps/mile) for dual meets, there appears to be at least one school per league that has a track. university tracks are rented for larger meets. the high school tracks appear to be small facilities with no pole vault ~~and~~ or long jump capacity.

HIGH SCHOOL TRACK QUESTIONNAIRE RESPONSE SUMMARY

INDOOR TRACK FACILITY (USED BY SCHOOL) INFORMATION (continued)

% OF FACILITIES HAVING THE CAPACITY TO PROVIDE THE FOLLOWING EVENTS

event	% of facilities with capacity
competition dash	100%
high jump	97%
pole vault	26%
shotput	97%
long jump	11%
run/relay	100%

BANKED OR FLAT TRACK

75% of the facilities had flat tracks and 25% had banked tracks

OF LANES/TRACK

most tracks had 4 lanes (81%) although the # of lanes ranged form 1 to 6

TRACK QUALIFICATION INFORMATION

87% of the facilities are high school qualified
13% of the facilities are NCAA qualified
5% of the facilities are IAAF qualified

AVERAGE # OF SPECTATORS/MEET - 143 spectators

SHOWERS AND LOCKERS INFORMATION

43% of the facilities have showers for their athletes
34% of the facilities have showers for visiting athletes
29% of the facilities have lockers for coaches and staff

HIGH SCHOOL TRACK QUESTIONNAIRE RESPONSE SUMMARY

STATE TRACK USE INFORMATION

FOR PRACTICE USE	55% of the schools stated interest in utilizing facility for practice. most wanted to use it on weekday afternoons and some (the schools that were further away) wanted to use it before major meets.
FOR COMPETITION USE	98% of the schools wanted to use the facility for competitions. most wanted to use it for larger meets (state, regional, invita.)
FOR RECREATIONAL USE	34% of the schools stated an interest in utilizing facility for recreational purposes.

REASONS FOR USE AND NO USE

most popular response for use of the facility was the expected quality of the facility and the lack of their own facility.

most popular response for not using the facility was the traveling distance from their schools.

TRACK OPTION PREFERENCES

banked vs. flat track	89% prefer the banked lanes to the flat lanes
practice dash track vs. extra spectator seats	53% prefer extra spectator seats to the practice dash track
full lockers vs. dressing room with no lockers	61% prefer the dressing room to full lockers
does shotput area have to be on track floor	53% feel that the shotput area should be on the same floor with the track

EXPECTED MAXIMUM # OF SPECTATORS AT A MEET IN THIS FACILITY

range = 10 - 5,000 spectators
mean = 1,144 spectators
median = 500 spectators

C. Northeastern Program Request

Charlie,

Enclosed, please find the data you asked for concerning the anticipated needs in the proposed recreation complex. Based upon standards as defined by AAHPERD for facility construction, we can only recommend that we are in need of at least another 100,000 square feet. This is assuming also, that the recreational facilities in Cabot remain available for general student use. If not, we would have to address the need for additional pool space, track space, locker rooms, basketball courts and volleyball courts.

Recommended Standards:

- 9 Square feet of available recreation space per student

  full-time students
+ 25% full time faculty/staff
+ 25% full-time graduate students
x 9 = needed space

* This does not even address the needs of part-time students, faculty and staff.

- 20 square feet of service space per student at peak usage or 40% of total recreation space

- Tare (sic) space (Hallways, Stairs, Etc.) should - 30-40% or total recreation space.

Based on these standards alone, we need

17,582 + 2,433(.25) = 3,500(.25) x 9 =

17,582 + 608 + 875 x 9 =

19,065 x 9 = 171,585 Square feet of usable rec. space
68,634 square feet of service space (lockerrooms, laundry, offices, etc.)
51,475 Square feet of tare (sic) space
296,694 Square feet total needed.

* Enrollment totals based on January 1987 enrollment

Indoor Track Area

Capacity - will be determined by activity - see below
based on 25' ceiling clearance

Square Footage Use: minimum requirements and occupancy

Basketball - 5,000 square feet regulation court
need 3 courts - capacity 40

Volleyball - 3,500 square feet regulation court
need 4 courts - capacity 50

Tennis - 7,200 square feet regulation court
need 5 courts - capacity 40

Soccer - 5,000 square feet - need 3 areas - capcity 48

Par Course/Circuit Training - use of 8-lane track
capacity unlimited

Badminton - 2,000 square feet regulation court
need 4 court capacity 20

Lazer Tag - 5,000 square feet

Wifleball - 40,000 square feet

Multi-Purposes - 10,000 square feet (wooden floor surface)
12 foot ceiling height

capacity - depending of activity - see below
all are stated minimums on an hourly basis

Equipment Needed - Dividing Curtains (allowing 3 rooms of
approximately 3,300 square feet)
PA System
Aerobics Mats (200)
Ballet Bars

Square Footage Use:

Archery - 1,170 square feet for six targets
accomodating 24 students
550 Square Feet for Safety Zone

Modern Dance + Ballet - 100 Square Feet per serson,
3,300 Square feet
accomodating 30 Students
24' ceiling recommended

Folk & Social Dance - 5,400 Square Feet (54 x 100)
will accomodate 60 students

Martial Arts - 100 Square Feet per person
- 5,000 square feet
- accomodating 45-50 students

Aerobics - 40 Square Feet per person
5,000 Square Feet
accomodating 100 students

Table Tennis - 350 square feet per table
2,000 square feet
accomodating 5 tables and 10 students

Fencing - 7,168 Square Feet for 4 strips each 52' X 6' with
required safety zones of at least 18'
will accomodate 25 students

Lazer Tag - 5,000 square feet (50' X 100')
will accomodate 20 students

Floor Hockey - 5,000 Square Feet (50' X 100')
will accomodate 30 students

These are general statements of usage, there are approximately 10 dance groups and 20 martial arts groups that have requested space.

Multi-Purpose Room - 7,500 Square feet (matted floor surface)
12 foot ceiling height

capacity - depending on activity - see below
All are stated minimums on an hourly basis

Equipment Needed - Dividing Curtains (allowing 2 rooms of
approximately 3,750 Square Feet)
PA System

Square Footage Use:

Wrestling - 100 Square Feet per person, 5,000 Square Feet
accomodating 30 students

Martial Arts - 100 Square Feet per person, 5,000 Square Feet
accomodating 30 students

Self Defense - 100 Square Feet per person, 5,000 Square Feet
accomodating 30 students

Activities Include:

Yoga	Fitness
Aikido	Karate
Kung Fu	Judo
Kendo	Jujitsu
Tae Kwan Do	

Fitness Complex? - 1,400 Square Feet

Capacity - 50 Students per hour

		Approx. Square Footage
Equipment Needed -	Starmaster (2)	90
	Rowing Ergometer (5)	120
	Lifecycle (10)	169
	Fitron Bike (5)	104
		483
	Partioned Area for Fitness Testing	150
		633
	mirrors on walls	

Square Footage Use

633 for machines and testing area

504 for safety zones and stretching area throughout

Free Weight Room? - 2,500 Square Feet (as recommended by AAHPER, NRPA)

Capacity - 50 students per hour

Equipment Needed - 15,000 pounds of weights (dumbells, barbells, plates & bars)
Weight Racks and Benches
Mirrors strategically placed throughout room

Benches Needed:
Abdominal/dip combination (2)
Rower Chair
Glute Ham Developer
Leg extension/curl
Heavey Duty Incline Bench
Heavy duty flat bench (2)
Power Racks (2)
Squat Racks (2)
T Bar Row
Leg Press
Military Seat
Free Standing Squat Rack
Wooden Seates (4)
Small Incline Bench (2)
Small Flat Bench with Rack (2)
Prone Bench (1)
Sit-up Bench (4)
Dumbell Bench (2)
Dumbell Racks (5)
Olympic Plate Racks (10)
Chalk Bones (4)
Miscellaneous Platform Racks (10)

Universal Room - 1,600 Square Feet

Capacity 40 Students per hour

Equipment Needed - 2 Centurion Multi-Station Machines
Mirrors on all walls

Each machine consists of the following stations:

Dipping
Leg Press
Abdominal Conditioner
Lat. Pull
Chest Press
Low Pulley/Dead Lift
Shoulder Press
Chinning
Deluxe Hip Flexor
Back Hyperextension
Thigh and Knee

Square Footage Use:	1,400	for Machines
	1,200	for Safety Zone throughout Room
	70	for 2 speed bag areas - 8 people per hour
	400	for 2 heavy bag areas - 4 people per hour
	200	for Stretching Area
	350	for 10 exercise bikes
	3,620	Square Feet

Existing - Non-[illegible]

ATHLETIC FACILITIES - [illegible]

FAC TYP	BLDG RM.	SQ.FT.	IN/OUT	% VAR COMP.	% INTRAM CLUBS	% PRACT	% TEACH	AVERAGE HOURLY WEEKDAY USE 8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-7	7-8	8-9	9-10
CABOT																			
FR.	R118	2435	IN	-	F-57%	F-38%	F-5%	IN	IN	IN	IN	IN	IN	IN	IN	ATHLETICS	IN	IN	IN
WT.				-	M-78%	M-22%	-												
NAU	R122	1000	IN	-	F-64%	F-22%	F-14%	PE	PE	PE	IN	IN	IN	IN	IN	ATHLETICS	IN	IN	IN
LITE	R123	1230	IN	-	F-73%	-	F-27%	PE	PE	PE	PE	IN	IN	IN	IN	INTRAMURALS	IN	IN	IN
ACT.				-	M-84%	-	M-16%												
TRAC	R180	44810	IN	-	F-57%	F-30%	F-13%	IN	IN	PE	PE	IN	IN	IN	IN	ATHLETICS	ATH	ATH	ATH
CAGE				-	M-52%	M-38%	M-10%												
GYMN	R201	5510	IN	-	F-13%	F-30%	F- 6%	PE	PE	PE	IN	IN	IN	PE	PE	ATHLETICS	ATH	IN	IN
				-	M-13%	M-30%	M-26%												
BASK	R202	17570	IN	-	F-51%	F-41%	F- 8%	PE	PE	PE	IN	IN	IN	PE	PE	ATHLETICS	ATH	ATH	IN
CRTS				M-15%	M-31%	M-41%	M-13%	IN	IN	IN	IN								
BARLETTA																			
REN	RM07	6000	IN	-	-	F-100%	-	ATH	ATH	ATH	ATH	ATH	ATH	ATH		ATHLETICS	ATH	ATH	ATH
TANK				-	-	M-100%	-												
RACQ	R1-4	3280	IN	-	F-76%	-	F-24%	IN	PE	PE	IN	IN	PE	PE	IN	ATHLETICS	ATH	IN	IN
CRTS					M-84%	-	M-16%												
POOL	R150	4725	IN	-	F-56%	F-22%	F-22%	IN	PE	PE	IN	IN	PE	PE	PE	IN/ATH	ATH	IN	IN
				M-18%	M-43%	M-22%	M-17%												
DOCKSER GYM																			
BASK	R225	7650	IN	F-15%	F-35%	F-24%	F-26%	PE	PE	PE	IN	IN	PE	PE	PE	ATHLETICS	ATH	ATH	IN
				-	M-53%	M-22%	M-25%												
MATTHEWS ARENA																			
RINK	R150	14800	IN		F-15%	F-27%	F- 6%	PE	PE	RE	IN	IN	RE	RE	RE	ATHLETICS	ATH	ATH	ATH
					M-15%	M-22%	M- 6%												
PARSONS FIELD			OUT					AVAILABLE FOR PE OR CLOSED								ATHLETICS	ATH	ATH	IN

total sq footage avail IN CABOT

Universal Room - 1,600 Square Feet

Capacity 40 Students per hour

Equipment Needed - 2 Centurion Multi-Station Machines
Mirrors on all walls

Each machine consists of the following stations:

Dipping
Leg Press
Abdominal Conditioner
Lat. Pull
Chest Press
Low Pulley/Dead Lift
Shoulder Press
Chinning
Deluxe Hip Flexor
Back Hyperextension
Thigh and Knee

Square Footage Use:

1,400	for Machines
1,200	for Safety Zone throughout Room
70	for 2 speed bag areas - 8 people per hour
400	for 2 heavy bag areas - 4 people per hour
200	for Stretching Area
350	for 10 exercise bikes
3,620	Square Feet

INDOOR TRACK AREAS

FACILITIES	ACTIVITIES	COMMENTS
6 Lane Track	School Boy Track NU Track, Cardio- vascular Members, General Use	
1 Sprint Track	Running, Jogging Runs Entire Length of Facility	
1 Long Jump/ High Jump 1 Pole Vaults		Located on the other straight side of the track. Each event would be in opposite directions.

TRACK INTERIOR

4 Tennis Courts	Tennis	
2 Multi- purpose areas	2 additonal Tennis Courts which can be converted to 2 basketball surfaces which also can be used	Surface should be of a quality for intercollegiate basketball and also be able to resist any residue from the bordering track.

SUPPORT

ROOM TYPE	AREA/SF	ACTIVITIES	COMMENTS
Storage Facility	2,000	For Equipment	Equipment Storage, throughout building
Meeting Rooms	2 @ 600 1,200	C/V Instruction	Moveable partition to divide rooms into two Meeting Rooms
Main Office	800	Membership/Guest Passes	Main control point for Northeastern's space
		Security	Main office & laundry on same floor
First Aid/ Train Room	1,000	C/V Testing, Preventive injuries	
Laundry Room	800	Towel Servicing	
Lounge Area	700		
LOCKER ROOMS			
General Use		Sign out towels, locks	Used on drop-in basis. No overnight lockers
1 male	4,000		
1 female	4,000		
Visiting or Special Use			
1 male	1,500		NU's varsity practice & Intercollegiate visiting room
1 female	1,500		
Alumni/Faculty/Staff			
1 male	1,400		Area for Faculty, Staff, and Alumni
1 female	1,400		
Building Staff	5 @ 200	Administration	
Subtotal	21,300		
Total	58,084		

PROPOSED RECREATION FACILITIES - NORTHEASTERN UNIVERSITY (EXCLUSIVE OF TRACK)

FACILITY TYPE	PROPOSED SIZE/SF	ACTIVITIES	COMMENTS
Multipurpose Room	10,000	combatives/dance studio/aerobics/ (multi-use flooring) Dance	Room contains 2 moveable, sound-proof partitions which would allow flexibility, hardwood surface with storage area the length of the room, accessible from each room when partitioned
Freeweight Room	2,500	weight room/warm-up area	Room primarily free weights except 400 SF for skipping rope and stretching area which would be surfaced by mats.
Fitness Center	1,400		Fitness Center with state of the art equipment i.e. treadmills, stairmasters, etc.
Nautilus Room	3,000	Nautilus/universal machine	2 runs of Nautilus equip. Nautilus makes 2 different type machines-men & women
Universal Room	1,600	2 Universal machines/ 2 speed bag stations/ 2 heavy bag areas/ 1 stretching area	Stretching area 500 SF
Racquetball Courts	12 @ 800? 9,600	Racquetball/handball Wallyball?	Intramural participation
Squash Courts	2 @ 592 1,184	Squash	
Multipurpose Room	7,500	combatives/dance studio/ aerobics (multi-use flooring) Dance	Hardwood surface with padded walls & floors for combatives, wrestling and phys. ed. class
Subtotal	36,784		

NOTE: Stretching areas are included? for each weight room to lessen the needs for the multi-purpose rm. ie. stretching and warm-ups.

ANTICIPATED USE OF FACILITIES ON A DAILY BASIS

TIME	MULTIPURPOSE-W	MULTIPURPOSE-M	FREE WT	FITNESS	NAUTILUS	UNIVERSAL	RACQUETBALL	SQUASH
7- 8 am	Aerobics*	Fitness*	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.
8- 9 am	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.
9-10 am	Rec.	Rec.	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
10-11 am	Rec.	Rec.	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
11-12 am	Aerobics/ M. Arts*	Fitness/ M. Arts*	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.
12- 1 pm	Aerobics/ M. Arts*	Fitness/ M. Arts*	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.
1- 2 pm	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.
2- 3 pm	Rec.	Rec.	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
3- 4 pm	Rec.	Rec.	Clinic	Clinic	Clinic	Clinic	Clinic	Clinic
4- 5 pm	Aerobics/ M. Arts/Rec.*	M. Arts/Rec.	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.
5- 6 pm	Aerobics/ M. Arts/Fencing*	M. Arts/ Wrestling*	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.
6- 7 pm	Aerobics M. Arts/Fencing*	M. Arts/ Wrestling*	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.
7- 8 pm	Aerobics M. Arts/Dancing*	M. Arts Wrestling*	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.
8- 9 pm	Aerobics M. Arts/Dancing*	M. Arts Wrestling*	Rec.	Rec.	Rec.	Rec.	Rec.	Rec.

Rec. = 1 M
Clinic - non-credit instruction
* - Staff Leader formalized but non-credit class

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